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ABSTRACT

This document consists of seven issues of the ARL (Association of Research Libraries) Newsletter, covering February 2002 through December 2002. Most issues include some or all of the following sections: "Current Issues"; "Leadership and Management"; "New Measures Initiative"; "Statistics and Measurement"; "Access Services"; "Diversity"; "Federal Relations"; "Preservation"; reports from the Office of Scholarly Communications; "ARL Activities"; and a calendar of events. Topics covered include: promoting open access--developing new strategies for managing copyright and intellectual property; recruiting, retaining, and developing new librarians; designing library space; the case for institutional repositories; copyright term extension challenged, mass deacidification and the University of Michigan, and accelerating the open sharing of knowledge; and collections and access for the 21st-century scholar--changing roles of research libraries. (MES)

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ARL: A Bimonthly Report on Research Library Issues and Actions from ARL, CNI, and SPARC, 2002

G. Jaia Barrett, Editor

ARL n220-225 Feb-Dec 2002

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ARL
A BIMONTHLY REPORT ON RESEARCH LIBRARY ISSUES AND ACTIONS FROM ARL, CNI, AND SPARC

220 Special Issue on Open Access February 2002

Promoting Open Access:

Developing New Strategies for Managing Copyright and Intellectual Property

by Mary M. Case, Director, Office of Scholarly Communication, ARL,
and Prudence S. Adler, Associate Executive Director, Federal Relations and Information Policy, ARL

The advent of the Internet, the World Wide Web, and digital technologies has revolutionized scholarly communication. Creative applications of these technologies are leading to innovations in the conduct of research as well as in the conveyance of ideas to readers. And the growing availability and application of these technologies has dramatically altered how readers may discover, gain access to, and use information.

As positive and liberating as these developments are for many researchers, authors, and readers, they have also accelerated the commodification of information and drives by some content industries to make their channels of information distribution more secure. As a result, changes are taking place in copyright, license/contract, and related laws that govern the management and use of intellectual property. For the most part, the changes result in more limited access and more restrictive uses for copyrighted material. It is no surprise then that, as the laws change to secure content for publishers, there is a negative impact on those in the educational and research communities where the creation, dissemination, and use of intellectual property is expected and, in fact, forms the very core of learning and research.

Historically, the library and academic communities looked to copyright law as the policy framework for balancing competing interests of creators, publishers, and users of copyrighted works. To achieve its constitutional purpose to promote the progress of science and the useful arts, copyright law provides a copyright owner with a private monopoly to reproduce, distribute, perform, display, and revise a work, while simultaneously providing exceptions for the special circumstances of education and libraries. This balance has been significantly eroded as copyright and other laws have been revised to apply in the digital and networked environment.

Changes in the laws have come from many directions but are largely driven by players who are part of a large and diverse commercial marketplace seeking changes in the legal framework in order to maximize their profits from e-commerce in publishing and entertainment. The rules promoted by these players to govern a sizeable, general marketplace of users do not lend themselves well to the educational and research communities because, with a few notable exceptions, they do not provide for the special qualities and needs of education and scholarship. Even in licensing, where libraries have made some progress in negotiating broad uses for their communities, efforts to legitimize mass-market licenses could eliminate fair use and erode the willingness of providers to negotiate at all.

In the U.S. and Canada as well as other parts of the world, the library community has been actively engaged in policy debates as laws have been revised, consistently advocating the need to retain a balance among the interests of creators, owners, and users. Our involvement has been significant but these efforts have not been able to stop the economic and political forces of the marketplace that now so clearly dominate society. It is critical that library community advocacy activities be sustained so there is no further erosion of the balance of interests among creators, copyright owners, and users. At the same time, it is essential for the community to step back, assess the current reality, and consider additional strategies for achieving our commitment to "promote equitable access to and effective use of recorded knowledge in support of teaching, research, scholarship, and community service."[1] The current environment clearly favors commercial interests and thus mitigates against effective use of intellectual property for purposes of education and research. With this sobering assessment as a given, are there additional steps that the library community should take that could compensate for the restrictive environment faced by the educational and library communities?

After many years of the library community's struggle to retain the balance in copyright law, scientists and scholars have cast a new light on the debate. Researchers have come to depend on new technologies for rapid peer-to-peer communications and sophisticated searching and manipulation of data. They have begun to insist that publishers support articles with large datasets, image files, and simulations. And, as the original authors, they are demanding open, easy access to the literature as soon after publication as possible. Many scholars and scientists are promoting these goals through efforts such as PubMed Central,[2] the Public Library of Science,[3] and the Budapest Open Access Initiative.[4] Some publishers have been resistant to open access, fearing loss of revenues and loss of control over their content. To date, librarians have exhibited mixed responses to open-access initiatives. Some librarians, like their scientific and scholarly colleagues, see open access as an opportunity to exploit technology more fully in support of research and teaching; others express concern, particularly with the Public Library of Science, that some libraries will cancel journal subscriptions thereby motivating publishers to raise subscription prices and increasing the overall cost of access. Now is the time for librarians to fully embrace the goal of open access, and join with scholars, scientists, and their institutions in working toward this goal.

A New Vision—The Open Access Model

Within ARL, the Working Group on Copyright Issues, the Scholarly Communication Committee, and the Information Policies Committee agreed that it was time to review ARL's strategy for managing intellectual property in the best interests of the academic community and the public. On 6 February 2002, representatives from these groups plus members of the ARL Board met as an ad hoc task force in a daylong retreat to undertake this charge. At the core of the discussions was agreement that the circumstances called for fresh ideas and approaches. The task force developed both a vision of how we would like to see intellectual property managed in the future and strategies for the ARL programs to work toward this vision.

The task force is recommending that ARL's long-term goal in the area of intellectual property be to promote "open access to quality information in support of learning and scholarship." While "open access" was not explicitly defined by the group, the concept is generally understood as the free availability of literature "on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself."[5] Open access operates within the current legal framework of copyright law. Authors can transfer to publishers the right for publishers to post their work freely on the Web, or authors can retain the right to post their work on institutional or disciplinary servers.

Open access, in the terms of such efforts as the Public Library of Science and the Budapest Open Access Initiative, is focused on that literature that scholars give to the community without expectation of direct monetary return. It can include peer-reviewed articles, preprints, preliminary findings, data sets—works that scholars and researchers desire to share unencumbered with colleagues. These works often result from research supported by public funds.

Open access, however, does not imply "without cost." Whether managing peer review and editing for an open-access journal or developing the infrastructure for an institutional repository, financial and human resources are essential. Author or institutional fees and grant support for dissemination have been proposed as possible alternatives to the traditional library subscription model for funding these costs. The library, their institutions, scholars and researchers, and scholarly publishers will need to work together if we are to find viable paths through the transition from the subscription-based model to sustainable, open-access systems.

By collaborating with the scholarly and scientific community to find sustainable systems to make their works publicly accessible, the research library community would take an important step toward creating a better environment for managing intellectual property—an environment that reflects the values of the research and educational communities. Implementing the researchers' vision would not be easy but it could have the benefit of bringing control to the academic community of some of its own intellectual property; moderating costs by breaking the monopoly-like control within science, technology, and medicine of a few large commercial publishers; and demonstrating to policy makers and legislators the economic and intellectual vitality of a system that more fully balances societal good with economic interests.

An ARL Action Agenda

To create the desired outcome of "open access to quality information in support of learning and scholarship," the ad hoc task force developed a five-year action agenda for ARL. Activities were identified in seven major areas: education, advocacy, legal, legislative, new funding models, global alliances, and research. The task force also identified current and potential partners that would be essential to engage in these efforts—these include scholars and scientists, the higher education and library associations, university counsels, scholarly societies, and numerous others.

Open access...is focused on that literature that scholars give to the community without expectation of direct monetary return.

In the area of education and advocacy, the group noted that it will be critical for ARL member-library directors to continue to be advocates on issues concerning intellectual property. Together with ARL staff, the directors will continue to educate library staff, campus administrators and trustees, university counsels, and faculty, encouraging them to take a more active role in intellectual property debates. Central to this effort will be the need to explain the impact of current trends in intellectual property and copyright on higher education if changes are not made.

In the legal and legislative arena, ARL will continue to work closely with its partners in libraries, higher education, industry, and others in the public interest sector to advance the interests of the community in ensuring access to quality resources for research and teaching. ARL will seek opportunities for proactive engagement, while continuing to focus on cases now in the courts as well as current legislation, such as UCITA,[6] database protection,[7] anti-circumvention proposals,[8] and distance education.[9]

ARL must commit to supporting projects that experiment with alternatives to the current subscription-based funding model or the current journals-based publishing model for scholarly communication. Projects undertaken or endorsed need not be perfect, but must purposefully advance the community's understanding and lead it closer to the goal of open access. Rigorous assessment of the costs/benefits of various models should be conducted along with an evaluation of the key characteristics desired in new publishing models. ARL should track member institutions' activities towards the goal—such as establishing institutional or disciplinary repositories—and provide opportunities for periodic reporting on these efforts.

ARL and its members must also become much more active in the global community. We need both to share with and learn from international colleagues in the areas of copyright and scholarly communication. For example, the Canadian government is expected to consider legislation implementing the WIPO treaties[10] by the end of this year. In the European Union (EU), countries will have five years to determine what limitations and exceptions they wish to apply to use of digital works and how these will be integrated into an anti-circumvention regime. ARL should be alerting our international colleagues to the problems caused by the anti-circumvention provision of the DMCA in the U.S. so that they may avoid our fate. At the same time, the economic benefits promised by the proponents of database protection in the EU have not materialized. It is important for the U.S. library and higher education community to be aware of this and continue to work towards narrowly tailored and balanced legislation while informing our international colleagues of our efforts.

Underlying all of these goals is the need for ARL to build a research capacity. Documentation and case studies of the negative impact of technological protection measures on the advancement of knowledge are essential if the library community is to make its case to the Copyright Office, Congress, and international colleagues. ARL also needs a sustained effort to collect detailed pricing and holdings data to analyze the effects of publisher consolidation. In addition, an analysis of the economic impact of additional database protection on libraries and higher education as well as an analysis of the economics of new funding models that support open access systems are needed. To accomplish such an ambitious research agenda, ARL may need to develop internal expertise, but could also look to outsourcing to members, providing small matching grants as incentives. ARL will continue to use the new intellectual property clinics and other related centers on campuses as partners for conducting research projects.

By the end of the next five years, progress toward this goal should be evident by:

- the emergence of a system that provides few or no barriers to accessing scholarly works authored by faculty;
- faculty and administrators who more fully appreciate the importance of intellectual property and copyright as an issue and are actively engaged in the debate;
- the continued engagement of the library community in drafting and promoting legislation that supports its principles, including enhancing fair use and extending the public domain;
- the restoration of the balance of interests among creators, owners, and users of copyrighted works as embedded in the 1976 Copyright Act;
- the existence of many more nonprofit venues in which faculty can publish;
- an emerging consensus on the economic models that promise sustainable, cost-effective dissemination and use of information;
- collaboration between faculty and their universities in the collection and dissemination of the campus's intellectual assets;
- a new appreciation among faculty and administrators of how scholarly accomplishment can be judged in the electronic environment;
- the development of a comprehensive digital archiving strategy to ensure enduring persistent access of digital resources; and
- effective global collaboration on all of these issues.

> *ARL must commit to supporting projects that experiment with alternatives to the current subscription-based funding model or the current journals-based publishing model for scholarly communication.*

The ad hoc task force looks forward to presenting the detailed action plan at the ARL May Membership Meeting and welcomes comment in the interim. Members of the group that met include Shirley Baker (Washington University in St. Louis), Marianne Gaunt (Rutgers University), Frances Groen (McGill University), Fred Heath (Texas A&M University), Graham Hill (McMaster University), Paula Kaufman (University of Illinois at Urbana-Champaign), Carol Mandel (New York University), James Neal (Columbia University), Brian Schottlaender (University of California, San Diego), and Ann Wolpert (Massachusetts Institute of Technology). ARL staff participating included Prue Adler, Mary Case, and Duane Webster. Rick Johnson of SPARC also attended.

Conclusion

In many respects, the current environment for managing intellectual property is largely being shaped by interests at odds with the values of the library and educational communities. Efforts to ensure access to quality resources by reducing prices, influencing legislation, and exploiting the full power of the new technology have been thwarted by some content owners who have convinced legislators of the need for greater control in the era of e-commerce. Research libraries, in collaboration with their partners in higher education and scholarly publishing, need to continue to work with scholars and scientists to develop scholarly communication systems that serve the educational enterprise rather than exploit it.

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[1] From the ARL mission statement. For the complete mission statement, see the *ARL Program Plan 2002* (Washington, D.C.: Association of Research Libraries, 2002): 3.

[2] PubMed Central is a digital archive of life sciences journal literature managed by the National Center for Biotechnology Information at the U.S. National Library of Medicine. Access to PubMed Central is free and unrestricted. Participation in PubMed Central is voluntary and journal articles can be deposited by publishers at any time. For more information, see <http://www.pubmedcentral.nih.gov/>.

[3] The Public Library of Science is a grassroots initiative created by life scientists to encourage publishers to deposit their journals in central archives, like PubMed Central, within six months of publication. These scientists believe that information from multiple sources stored in a common format in central repositories can significantly enhance their ability to search across collections, manipulate data, and develop tools to integrate the literature with a variety of other information resources. While over 29,000 scientists from around the world have signed a petition not to publish in, review or edit for, or subscribe to publications that do not submit their content to a central repository, publishers have been slow to respond. The key leaders of the Public Library of Science movement are now developing their own nonprofit scientific publisher. For more information, see <http://www.publiclibraryofscience.org/>.

[4] The Budapest Open Access Initiative is a statement of principle, strategy, and commitment to making research articles in all academic fields freely available on the Internet. The Initiative arose from an international meeting convened in Budapest by the Open Society Institute (OSI) in December 2001. The Initiative has been signed by the meeting participants and a growing number of individuals and organizations from around the world who represent researchers, universities, laboratories, libraries, foundations,

journals, publishers, learned societies, and kindred open-access initiatives. For more information, see <http://www.soros.org/openaccess/>.

[5] Budapest Open Access Initiative, <http://www.soros.org/openaccess/read.shtml>.

[6] UCITA, the Uniform Computer Information Transactions Act, is a proposed state law that would legalize shrink-wrap and click-on non-negotiated licenses for computer software and digital information, thus permitting these licenses to override copyright exemptions. To date, UCITA has passed in only Virginia and Maryland. While it had been introduced in numerous other states during 2000 and 2001, it appears to have lost some of its earlier momentum.

[7] Over the past several years, major database owners such as Reed Elsevier, Thomson, and the National Association of Realtors, have made extensive efforts to secure passage of extremely contentious legislation that would protect their investments in databases. The legislation would provide protection of facts and control some downstream uses of information, including facts. Database legislation would bypass copyright law and create a new form of intellectual property protection for databases.

[8] The anti-circumvention provision of the Digital Millennium Copyright Act (Section 1201) prohibits the circumvention of a technological protection measure that effectively controls access to a work protected by copyright law. Content owners argued that this provision should have no effect on the ability to make a fair use of a work since fair use is only possible once a user has lawfully acquired the work. Since the law addresses only circumvention of measures to access the work, they argued that fair use of the work is unaffected. In practical terms, however, this provision eliminates fair use; sophisticated technological protection measures will in fact allow owners to control use by controlling access.

[9] The TEACH Act (Technology, Education, and Copyright Harmonization Act)—passed by the Senate in June 2001—substantially increases the circumstances under which copyrighted material could be used in online distance education while providing a number of safeguards against that material's misuse. The House Subcommittee on Courts, the Internet, and Intellectual Property, Committee on the Judiciary, conducted a hearing and marked up the legislation in late June 2001, but there has been no further action since that time.

[10] In December 1996, the World Intellectual Property Organization (WIPO) adopted a copyright treaty establishing new intellectual property norms for the networked digital environment. The U.S. approved the treaty and, in October 1998, adopted implementing legislation—the Digital Millennium Copyright Act. Canada will be considering legislation implementing the treaty this year.

WHERE DOES THE FREE ONLINE SCHOLARSHIP MOVEMENT STAND TODAY?

by Peter Suber, Professor of Philosophy, Earlham College, and Editor, Free Online Scholarship Newsletter

There's a lot happening these days to create free online access to peer-reviewed scientific and scholarly journal articles. Here are some of the more significant trends:

- More disciplines are setting up preprint archives.
- More open-access peer-reviewed journals are popping up in every field. Most of these are online-only. But journals like *BMJ* [*British Medical Journal*] and *Cortex* show that even the costs of a print edition do not foreclose the possibility of free online access to full text.
- More universities are supporting institutional self-archiving for their research faculty.
- More priced journals are experimenting with ways to offer some online content free of charge, and experimenting with ways to cover the costs of providing this kind of free access.
- Editorial "declarations of independence" against publishers who limit access by charging exorbitant subscription prices are becoming more common. See my list at <http://www.earlham.edu/~peters/fos/lists.htm#declarations>. The most recent was last October, when 40 editors of *Machine Learning* issued a public letter explaining their resignation from the journal. One of the editors, Leslie Pack Kaelbling, then launched the *Journal of Machine Learning Research*, which MIT Press agreed to provide to readers free of charge.
- More scholars are demanding that journals offer free online access to their contents. The Public Library of Science, <http://www.publiclibraryofscience.org/>, has collected more than 29,000 signatures from researchers in 175 countries in the six months since its launch.
- More white papers, task forces, projects, and initiatives are endorsing the Open Archives Initiative. The two most recent are the International Scholarly Communications Alliance, <http://makeashorterlink.com/?A15D6226>, and the Budapest Open Access Initiative, <http://www.soros.org/openaccess/>.
- More initiatives are acknowledging that progress requires the launch of new open-access journals. Both the Public Library of Science (PLoS) and the Budapest Open Access Initiative (BOAI) have come to this conclusion.

One of the most interesting trends is for priced journals to experiment with free online scholarship (FOS). In the February issue of *Information Today*, Derk Haank, the CEO of Elsevier, said that his company has the same goal as the PLoS, <http://www.infotoday.com/it/feb02/kaser.htm>. Even though this is a very misleading overstatement, Elsevier is making some notable experiments in FOS. For example, it owns ChemWeb and the Chemistry Preprint Server, which both provide free access to all their contents. It allows authors to self-archive preprints, even if not postprints. Its science search engine, Scirus, not only searches Elsevier journals, but a growing number of FOS sources such as Medline, BioMed Central, and arXiv. Finally, Elsevier has started distributing science books through ebrary, which allows free online reading of full texts, and charges users only for copying and printing.

In general, *Nature* offers free online access only to tables of contents, abstracts, the first paragraphs of selected articles, and other special features. Nevertheless, *Nature* hosted an important online debate about FOS, <http://www.nature.com/nature/debates/e-access/>, and of course it provides free online access to the contributions themselves. *Nature* has also agreed to be a partner in the Alliance for Cellular Signaling [AfCS], <http://www.cellularsignaling.org/>, which will put all the research discoveries that directly result from its funding or reagents into the public domain. Papers that survive AfCS peer review, will be considered—and be retrievable—as papers published in *Nature*. (AfCS will launch in the spring or summer of this year.)

Even though a growing number of journals like *BMJ* and *Cortex* offer FOS without half-measures or experiments, these experiments by Elsevier and *Nature* are nevertheless promising. They show a recognition that scientists and scholars are demanding open access and that this demand is legitimate and increasingly realistic. Moreover, of course, every journal or archive that moves to free online access for even part of its content is enlarging the absolute quantity of FOS, enlarging the proportion of FOS relative to the entire body of scholarly publications, changing the expectations of future authors and readers of research literature, and adding to the competitive pressure on journals that limit access to paying customers.

One of the most important FOS initiatives to date is the Budapest Open Access Initiative, which was launched on February 14. (Full disclosure: I am one of the drafters.) BOAI is important for several reasons. It endorses "parallel processing" or multiple strategies. It supports self-archiving and the launch of new open-access journals, two compatible and complementary approaches that have too often been pursued in isolation from one another. Second, it applies to all academic fields, not just to the sciences. Third, it is accompanied by a detailed FAQ, <http://www.earlham.edu/~peters/fos/boaifaq.htm>, no small thing for an initiative whose primary obstacle is misunderstanding (more on this below).

Finally and above all, BOAI brings serious financial resources to the cause. The long-term economic sustainability of FOS is not a problem. We know this because creating open access to scholarly journals costs much less than traditional forms of dissemination and much less than the money currently spent on journal subscriptions. The only problem is the transition from here to there. The BOAI is especially promising because it understands this and mobilizes the financial resources to help make the transition possible for existing journals that would like to change their business model, new journals that need to establish themselves, and universities that would like to participate in self-archiving. George Soros' Open Society Institute has pledged $3 million for this cause and is working to recruit other foundations that can add their resources to the effort.

There are three recurring objections to FOS initiatives, and all are based on misunderstandings. Because I've already heard all of them raised against the BOAI, let me run through them quickly. One is based on copyright, one on peer review, and one on funding.

1. The first objection is that we are advocating the reform, abolition, or even the violation of copyright. Not true. We want to use copyright to support open access. The copyright holder has the right to make access open or restricted. We want to put copyright in the hands of authors or journals that will use it to authorize open access. Copyright reform may be desirable for other reasons, but it is not at all necessary for the complete realization of FOS—and we are too busy to fight unnecessary battles.
2. The second objection is that we want scientists and scholars to post their research articles to their home pages and bypass peer review. Not true. The primary body of literature for which we want open access consists of peer-reviewed research articles. Peer review is essential for science and scholarship, and entirely compatible with open access to the papers it vets and validates. Again, peer review reform may be desirable for other reasons, but it is not at all necessary for the complete realization of FOS.
3. The third objection is that we think open-access publications costs nothing to produce, or that we have no way to cover these costs. Not true. We know that peer review costs money. Open-access journals will have expenses beyond peer review as well, though not many. Taken together, however, these expenses are far lower than for print journals and far lower than for online journals that want to block access to non-subscribers. But they are non-zero, and more costly than simply posting articles to one's home page

Here the misunderstanding is corrected once we acknowledge that open-access journals will not be free to produce, and therefore will need some revenue or subsidy in order to be free for readers. However, once correcting the misunderstanding, we still face the objection that we have no way to cover these costs. Our full reply to this objection has several parts. Here's a sketch. First, the scope of the FOS movement is limited to scholarly journal articles. We pick this focus not because these articles are useful (as if everything useful should be free), but because they have the relevant peculiarity that their authors do not demand payment. Moreover, in most journals and most fields, editors and peer reviewers do not demand payment for their work either. Second, the costs of open-access publication are significantly lower than the costs of print publication or limited-access online publication. So the required subsidy is significantly smaller than the budget of the average contemporary journal.

Third, we have a general revenue model for open-access journals. The basic idea is to charge for disseminating articles rather than for accessing them. There are many variations on the theme, depending on who pays the cost of dissemination (which includes the cost of peer review). A model that will work well in the natural sciences, where most research is funded, is to regard the cost of dissemination as part of the cost of research, to be paid by the grant that funds the research. BioMed Central is a for-profit provider of FOS whose variation on this theme is to charge authors, and let authors make whatever arrangement they can to obtain the funds from their grants or employers.

The economic feasibility of FOS is no more mysterious than the economic feasibility of television or radio. In both cases, funders pay the costs of dissemination so that access will be free for everyone. In the case of public television and radio, the funders are volunteers of means and good will. In the case of commercial television and radio, they are primarily advertisers moved by self-interest. The variations on the theme matter less than the general approach to pay for dissemination so that access is free. There are many successful and sustainable examples in our economy in which some pay for all, and those who pay are moved by generosity, self-interest, or some combination. Either way, they willingly pay to make a product or service free for everyone rather than pay only for their own private access or consumption. This funding model, which works so well in industries with much higher expenses, will work even better in an economic sector with the nearly unique property that producers donate their labor and intellectual property, and are moved by the desire to make a contribution to knowledge rather than a desire for personal profit.

Here are two trends that will guide the future of the FOS movement. On the one hand, the scholarly communication crisis (also known as the serials pricing crisis), which has long troubled and mobilized librarians, is starting to trouble and mobilize scientists and scholars themselves. On the other hand, this is happening much too slowly and incompletely. Most scientists and scholars are still oblivious to the magnitude of the crisis and even its existence. (A good introduction to the data and issues can be found here [on the Create Change Web site], <http://www.createchange.org/faculty/issues/quick.html>.) This matters because the most important means to this very important end are within the reach of scientists and scholars themselves, and do not depend on legislatures or markets. One of the most effective ways that you can help the cause today is to educate colleagues about the seriousness of the problem and the beauty of the solution.

ARL thanks the author and the editor of Cortex *<http://www.cortex-online.org/> for permission to reprint this article, which originally appeared in* Cortex *38, no. 2 (April 2002).*

THE *FREE ONLINE SCHOLARSHIP NEWSLETTER*: HOW THE INTERNET IS TRANSFORMING SCHOLARLY RESEARCH AND PUBLICATION

The *Free Online Scholarship Newsletter*—edited by Peter Suber, Professor of Philosophy at Earlham College—shares news and discussion on the migration of print scholarship to the Internet and on efforts to make this scholarship available to readers free of charge. Features include:

- **Newsletter archive**—Read past issues.
- **Discussion forum**—Read postings and (if you subscribe) post your own.
- **Sources for the *FOS Newsletter***—Where the editor finds FOS news and where you can find news on related topics.
- **Guide to the FOS Movement**—Brief, interlinked definitions of the terminology, acronyms, initiatives, standards, technologies, and players in the FOS movement.
- **Timeline of the FOS Movement**—Chronology of major events in the movement.
- **FOS Lists**—Clusters of FOS-related sites and information.
- **User-submitted links**—See what others have submitted and submit your own.
- **Feedback form**—Send your thoughts and comments.

Free Online Scholarship Newsletter
<http://www.earlham.edu/~peters/fos/>

BUDAPEST OPEN ACCESS INITIATIVE

An old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment, for the sake of inquiry and knowledge. The new technology is the internet. The public good they make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds. Removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge.

For various reasons, this kind of free and unrestricted online availability, which we will call **open access**, has so far been limited to small portions of the journal literature. But even in these limited collections, many different initiatives have shown that open access is economically feasible, that it gives readers extraordinary power to find and make use of relevant literature, and that it gives authors and their works vast and measurable new visibility, readership, and impact. To secure these benefits for all, we call on all interested institutions and individuals to help open up access to the rest of this literature and remove the barriers, especially the price barriers, that stand in the way. The more who join the effort to advance this cause, the sooner we will all enjoy the benefits of open access.

The literature that should be freely accessible online is that which scholars give to the world without expectation of payment. Primarily, this category encompasses their peer-reviewed journal articles, but it also includes any unreviewed preprints that they might wish to put online for comment or to alert colleagues to important research findings. There are many degrees and kinds of wider and easier access to this literature. By "open access" to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited.

While the peer-reviewed journal literature should be accessible online without cost to readers, it is not costless to produce. However, experiments show that the overall costs of providing open access to this literature are far lower than the costs of traditional forms of dissemination. With such an opportunity to save money and expand the scope of dissemination at the same time, there is today a strong incentive for professional associations, universities, libraries, foundations, and others to embrace open access as a means of advancing their missions. Achieving open access will require new cost recovery models and financing mechanisms, but the significantly lower overall cost of dissemination is a reason to be confident that the goal is attainable and not merely preferable or utopian.

To achieve open access to scholarly journal literature, we recommend two complementary strategies.

I. **Self-Archiving:** First, scholars need the tools and assistance to deposit their refereed journal articles in open electronic archives, a practice commonly called, self-archiving. When these archives conform to standards created by the Open Archives Initiative, then search engines and other tools can treat the separate archives as one. Users then need not know which archives exist or where they are located in order to find and make use of their contents.

II. **Alternative Journals:** Second, scholars need the means to launch a new generation of alternative journals committed to open access, and to help existing journals that elect to make the transition to open access. Because journal articles should be disseminated as widely as possible, these new journals will no longer invoke copyright to restrict access to and use of the material they publish. Instead they will use copyright and other tools to ensure permanent open access to all the articles they publish. Because price is a barrier to access, these new journals will not charge subscription or access fees, and will turn to other methods for covering their expenses. There are many alternative sources of funds for this purpose, including the foundations and governments that fund research, the universities and laboratories that employ researchers, endowments set up by discipline or institution, friends of the cause of open access, profits from the sale of add-ons to the basic texts, funds freed up by the demise or cancellation of journals charging traditional subscription or access fees, or even contributions from the researchers themselves. There is no need to favor one of these solutions over the others for all disciplines or nations, and no need to stop looking for other, creative alternatives.

Open access to peer-reviewed journal literature is the goal. **Self-archiving (I.)** and a new generation of open-access **alternative journals (II.)** are the ways to attain this goal. They are not only direct and effective means to this end, they are within the reach of scholars themselves, immediately, and need not wait on changes brought about by markets or legislation. While we endorse the two strategies just outlined, we also encourage experimentation with further ways to make the transition from the present methods of dissemination to open access. Flexibility, experimentation, and adaptation to local circumstances are the best ways to assure that progress in diverse settings will be rapid, secure, and long-lived.

The Open Society Institute, the foundation network founded by philanthropist George Soros, is committed to providing initial help and funding to realize this goal. It will use its resources and influence to extend and promote institutional self-archiving, to launch new open-access journals, and to help an open-access journal system become economically self-sustaining. While the Open Society Institute's commitment and resources are substantial, this initiative is very much in need of other organizations to lend their effort and resources.

We invite governments, universities, libraries, journal editors, publishers, foundations, learned societies, professional associations, and individual scholars who share our vision to join us in the task of removing the barriers to open access and building a future in which research and education in every part of the world are that much more free to flourish.

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Budapest, Hungary

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Peter Suber, Professor of Philosophy, Earlham College & The Free Online Scholarship Newsletter
Jan Velterop, Publisher, BioMed Central

SUPPORT FOR THE BOAI

Since the Budapest Open Access Initiative (BOAI) was released on 14 February 2002, over 100 organizations and 2,000 individuals have joined the original signatories to commit to promoting open access to peer-reviewed journal literature. Support from library associations is already strong. ARL signed the Initiative, as did the Canadian Association of Research Libraries, the Medical Library Association, the Association of Academic Health Sciences Libraries, the Greater Western Library Alliance, the Utah Academic Library Consortium, SPARC, SPARC Europe, the Council of Australian University Librarians, and the Council of New Zealand University Librarians. University support is also strong. Among the early signatories are the Committee on Institutional Cooperation (CIC), the Australian Vice Chancellors Committee, plus a growing number of individual universities.

To see the complete and current roster of signatories who are committed to the goal of open access, see the BOIA Web site <http://www.soros.org/openaccess/>. The Web site also provides extensive explanatory information and links to other resources, including a very useful "Frequently Asked Questions" (FAQ) document. Excerpts from the FAQ appear on the following pages, however, readers are encouraged to consult the complete document <http://www.earlham.edu/~peters/fos/boaifaq.htm>. The FAQ is one of the most usefully linked documents your editors have ever discovered on the Web.

BUDAPEST OPEN ACCESS INITIATIVE: FREQUENTLY ASKED QUESTIONS (EXCERPTS)

Background

How did the Budapest Open Access Initiative (BOAI) arise?

On December 1–2, 2001, the Open Society Institute (OSI) called a meeting in Budapest of leading proponents of open access for scientific and scholarly journal literature. The goal was to see how far the many current initiatives could assist one another and how OSI could use its resources to help the cause.

What is the relationship between the Open Society Institute and the BOAI?

OSI convened the meeting that gave rise to the BOAI, and OSI is the first institutional signatory. OSI is committed to use its resources to advance this cause and to help recruit other institutions to join the effort.

What is the difference between the BOAI and the Public Library of Science?

The Public Library of Science (PLoS) asks existing science journals to provide open access to their contents, in public archives, within six months of print publication. It asks scientists to withhold their labor as authors, referees, or editors, and to withhold their subscription fees, from journals that do not comply. The BOAI differs in the following respects. (1) BOAI applies to all academic fields, not just to the sciences. (2) BOAI is equally committed to open-access journals and to self-archiving as a means to achieve open access. (3) BOAI does not demand that existing journals change their access policies, though it hopes they will. Instead, it will raise money to defray the transition costs for those journals willing to make the change, and to create new journals committed to open access. (4) Signatories to the PLoS open letter are asking journals and publishers to make a certain change. Signatories to the BOAI are pledging to make changes within their own power. We are grateful to the PLoS for letting us adapt the signature-gathering software it wrote for its own web site.

What is the difference between BOAI and the Open Archives Initiative?

The Open Archives Initiative (OAI) is a protocol for collecting metadata about data files residing in separate archives. When the protocol is used by data services like search engines, they can process the data in separate archives as if they resided in just one archive. (In the technical jargon, the metadata harvesting protocol supports interoperability.) The BOAI supports OAI for all open-access literature, but BOAI is not part of OAI or vice versa.

What is the difference between BOAI and other initiatives to make various kinds of digital information free for users?

The BOAI is distinctive in its scope and its insistence on author consent. (1) BOAI focuses specifically on peer-reviewed research literature, and does not apply to software, music, movies, or anything else. (2) For BOAI, free access should depend on author consent, not just user need or desire. For more on the second condition, see our questions about consent and copyright below.

Will BOAI become a publisher?

No. BOAI will assist in the creation of open-access journals and open-access archives of articles published in other journals.

Research Literature

For which body of literature, exactly, does BOAI hope to secure open access?

BOAI only seeks open access for the scientific and scholarly research texts that authors give to publishers and readers without asking for any kind of royalty or payment. As the BOAI public statement puts it, "[p]rimarily, this category encompasses...peer-reviewed journal articles, but it also includes any unreviewed preprints that [scholars] might wish to put online for comment or to alert colleagues to important research findings." It does not include books from which their authors would prefer to generate revenue. It does not include any non-scholarly writings, such as novels or news.

While the BOAI does not specifically cover donated scholarship other than peer-reviewed journal articles and preprints, it could be extended quite naturally to all the writings for which authors do not expect payment. These include scholarly monographs on specialized topics, conference proceedings, theses and dissertations, government reports, and statutes and judicial opinions.

Do all scientists and scholars really consent to give away their writings?

No. BOAI makes an explicit and fundamental distinction between writings that scientists and scholars do and do not wish to give away for free. BOAI applies only to the former. The objective is that when authors do wish to give away their writings, then readers should not have to pay access tolls to read them. There should be open access to such writings and only to such writings. The BOAI sees no need to estimate how many authors are in this category, and does not endorse attempts to provide open access to any work without its author's consent.

Authors of textbooks typically hope to make money from them. Therefore this initiative does not apply to textbooks. Most authors of scholarly monographs hope to make money from them, regardless of the true sales prospects. Therefore this initiative does not apply to most scholarly monographs. But by contrast, most authors of peer-reviewed journal articles do not expect payment for them and willingly publish them in journals that pay no royalties or fees. Such articles form the core of the literature to which this initiative applies.

Note that even authors who give away their writings in this sense may retain copyright and may find it important to do so. What's important is relinquishing payment, not relinquishing intellectual property rights or putting one's writings into the public domain. (Also see our question on how users ascertain author consent.)

What about previously published research literature?

This initiative is only about providing open access to future research literature. However, when the money, permissions, and standards can be arranged, then digitizing past literature and providing open access to it will be very desirable.

Open Access

What does BOAI mean by "open access"?

Here is the definition of "open access" from the BOAI: "By 'open access' to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited."

Is open access compatible with copyright?

Completely. The short answer is that copyright law gives the copyright holder the right to make access open or restricted, and the BOAI seeks to put copyright in the hands of authors or institutions that will consent to make access open. The long answer depends on whether we are talking about self-archiving or open access journals.

1. Self-archiving. Authors of preprints hold the copyright to them and may post them to open access archives with no copyright problems whatever. If the preprint is later accepted for publication in a journal that requires authors to transfer copyright to the publisher, then the journal may or may not give permission for the refereed postprint to be posted to an open access archive. If permission is granted, then again there is no copyright problem. If permission is denied, then the preprint may remain in the open access archive because it is a different work from the postprint and the author never transferred the copyright on the preprint. Moreover, the author may post to the archive a list of corrigenda, or differences between the preprint and postprint. This is not quite as convenient for readers as seeing the whole postprint online, but it provides them with the equivalent of the full text of the postprint and is infinitely more useful than no free access at all. For more details, see the section on self-archiving.

2. Journals. Open access journals will either let authors retain copyright or ask authors to transfer copyright to the publisher. In either case, the copyright holder will consent to open access for the published work. When the publisher holds the copyright, it will consent to open access directly. When authors hold the copyright, they will insure open access by signing a license to the publisher authorizing open access. Publishers of open-access journals will have such licenses already prepared for authors. There are many ways to write such a license. For example, see the license written by the Public Library of Science.

The BOAI does not advocate open access for copyrighted literature against the will of the copyright holder or in violation of copyright law. Nor does it advocate any change in copyright law. It seeks to maximize open access within existing copyright law, in accordance with the wishes of the copyright holders. Also see our question on how users ascertain author consent.

Is open access compatible with peer review?

Completely. BOAI seeks open access for peer-reviewed literature. The only exception is for preprints, which are put online prior to peer review but which are intended for peer-reviewed journals at a later stage in their evolution. Peer review is medium-independent, as necessary for online journals as for print journals, and no more difficult. Self-publishing to the internet, which bypasses peer review, is not the kind of open access that BOAI seeks or endorses.

Is open access compatible with print?

Completely. Open access is online access, but it does not exclude print access to the same works. Open access is free of charge to readers, but it does not exclude priced access to print versions of the same works. (Because print editions are expensive to produce, they tend to be priced rather than free.) Open access does not exclude printouts by users or print archives for security and long-term preservation. For some publishers, print will exclude open access, but the reverse need never occur.

Is open access compatible with high standards and high quality?

Completely. The short answer is that the same factors that create high standards and high quality in traditional scholarly publications can be brought to bear, with the same effects, on open-access literature. The long answer depends on whether we are talking about self-archiving or open-access journals.

1. **Self-archiving**. Scholars self-archive either unrefereed preprints or refereed postprints. Let's take these in order. (A) By calling preprints "unrefereed" we mean, of course, that they are not yet peer-reviewed. Their quality has not been tested or endorsed by others in the field. But this is because they are unrefereed preprints, not because an archive gives open access to them. As long as they are labelled as preprints, there is no misleading of readers and no dilution of the body of refereed or peer-reviewed literature. (B) Refereed postprints have been peer-reviewed by journals. The standards by which they have been judged and recommended are those of journals in the field, and these standards do not depend on a journal's medium (print or electronic) or cost (priced or free). The quality of the articles endorsed by these standards depends entirely on these standards, not on the fact that an archive provides open access to them.

2. **Journals**. The quality of scholarly journals is a function of the quality of their editors, editorial boards, and referees, which in turn affect the quality of the authors who submit articles to them. Open-access journals can have exactly the same quality controls working for them that traditional journals have. The main reason is that the people involved in the editorial process, and the standards they use, do not depend on the medium (print or electronic) or the cost (priced or free) of the publication. This is clearest in the case when the very same people who edit print or limited-access journals also edit open-access journals, either because their journal appears in two versions or because they resigned from a journal that didn't support open access and created a new open-access journal to serve the same scholarly community. Open-access journals do not differ from toll-access journals in their commitment to peer review or their way of conducting it, but only in their cost-recovery model, which has no bearing on the quality of the articles they publish.

If the real question here is whether those who call for open access are really calling for the abandonment of peer review, or for a kind of self-publication to the internet that bypasses peer review, the answer is *no*. See our direct answer to the latter question above.

Why doesn't the BOAI call on scholars to put their works into the public domain?

Putting online works into the public domain is one way to create open access to them. But this method leaves authors with fewer rights than they might want, e.g. the right to prevent plagiarism or the publication of corrupted versions of their work, while using copyright law to protect authors' basic rights does not interfere with the kind of open access that matters for research and education. The primary purpose of BOAI is to enhance and accelerate research. Researchers do not need the right to publish mangled or misattributed versions of the work of other researchers. Hence, letting authors retain the right to control the integrity and proper citation of their work will not interfere with the kind of open access that BOAI endorses.

Must users ask the author (or copyright holder) for consent every time they wish to make or distribute a copy?

No. The author's consent to open access for a given article is manifested by self-archiving the article in an open-access archive, by publishing it in an open-access journal, or by some explicit statement attached to the article. Open-access archives and journals will help readers by making clear that they offer open access to all their contents, and they will respect authors by offering open access only to the works for which their authors have consented to open access. However, if a copyrighted work is on the internet but not in such an archive or journal, and there is no other indication of the copyright holder's wishes, then users should seek permission for any copying that would exceed fair use.

Isn't this wishful thinking? Do you really believe that online archives and journals are free?

"Free" is ambiguous. We mean free for readers, not free for producers. We know that open-access literature is not free (without cost) to produce. But that does not foreclose the possibility of making it free of charge (without price) for readers and users. The costs of producing open-access literature are much lower than the costs of producing print literature or toll-access online literature. These low costs can be borne by any of a wide variety of potential funders, among which BOAI has no preferences. For more detail, see our questions on how to provide free access to literature that isn't free to produce and how open-access journals pay their expenses.

If open-access publications are not free to produce, how can they be made free for readers?

Open access does not require the infusion of new money beyond what is already spent on journals, only a redirection of how it is spent. As it is currently spent, the money buys access only for the buyer, so that access is limited to those who can afford the price. If instead the money covers the costs of disseminating articles online, then the articles could be freely accessible to everyone. In short, the solution is to use existing funds to pay per outgoing article (dissemination), not per incoming article (access). The article charges to cover the costs of dissemination could be paid by the universities that employ the authors, the foundations that fund their research, or other possible sources.

The money already spent on journals will suffice. By one estimate, journal revenue from subscriptions and licenses averages $4000 per article, while other estimates put the figure even higher. By contrast, the primary expense of open access journals is peer review, whose cost lies in or near the range of $200–500 per article.

Moreover, there are good reasons to think that the money required to provide open access will be significantly less than the money now paid for restricted access.

How do we know that open-access publishing is economically sustainable?

Our confidence arises from (1) existing journals that give us hope, and (2) background reasons already evident to think that open-access publishing will be economically sustainable.

The background reasons are of two kinds: first, evidence that the costs of open-access publishing are significantly lower than the costs of traditional publishing, and second, reasons to think that the money to cover these significantly reduced costs can be found, even if only by redirecting the sources now paying the higher costs of traditional publication. We enumerate both kinds of reasons in our answer to the question how open-access journals pay their expenses.

The open-access model is far more sustainable than the current model, under which journal prices have been rising faster than inflation and faster than library budgets for three decades. On the open-access model, journal costs will drop. Paying for them will be easier even if no additional money is found. The money already spent on scholarly literature will be more than adequate rather than increasingly inadequate.

What is the difference between Open Access and Open Source?

Open source software, like free software, is a kind of software, namely, software whose source code is freely available for inspection or modification. Open access is a kind of access or availability. This kind of access could apply to any digital content, such as software, music, movies, or news. But the BOAI only calls for open access to a certain kind of scientific and scholarly literature. Also see our question on how the BOAI differs from other initiatives to make digital information free for users.

Self-Archiving

See our Self-Archiving FAQ <http://www.eprints.org/self-faq/> for answers to a large number of questions. Here are some of the most basic.

What is self-archiving?

To self-archive is to deposit a digital document in a publicly accessible website, preferably an OAI-compliant Eprint Archive. Depositing involves a simple web interface where the depositer copy/pastes in the "metadata" (date, author-name, title, journal-name, etc.) and then attaches the full-text document. Software is also being developed to allow documents to be self-archived in bulk, rather than just one by one.

How can I or my institution create an Eprint Archive?

Free Eprints software (itself using only free software) has been designed so institutions or even individuals can create their own OAI-compliant Eprint Archives. Setting up the archive only needs some space on a web server. Installing the Eprints software is relatively easy, and being made easier with each successive release of the software. It requires a little webmaster time to set up, and a little webmaster time to maintain. This investment is very small. The real challenge is not creating or maintaining an Eprint Archive, but ensuring that it is promptly filled with its intended contents, which, for the BOAI, consist of pre-peer-review preprints and peer-reviewed, published postprints.

Who should self-archive?

The Budapest Open Access Initiative is focussed specifically on the refereed research literature, across all disciplines. It is the authors of these articles who should self-archive them, in order to maximize the visibility, accessibility, uptake and impact of their work. The self-archiving itself, however, though rapid and simple, can be done by "proxy," by digital archivers in the researcher's institution or its library. It can also be done in bulk, by (free) software (under development).

What about copyright?

The author holds the copyright for the pre-refereeing preprint, so that can be self-archived without seeking anyone else's permission. For the refereed postprint, the author can try to modify the copyright transfer agreement to allow self-archiving, or, failing that, can append or link a corrigenda file to the already self-archived preprint. See "Is self-archiving legal?" [below] and "What if the publisher forbids self-archiving the preprint?" [in the Self-Archiving FAQ].

Is self-archiving legal?

Texts that an author has himself written are his own intellectual property. The author holds the copyright and is free to give away or sell copies, on-paper or online (e.g., by self-archiving), as he sees fit. For example, the pre-refereeing preprint can always be legally self-archived.

Self-archiving of one's own, non-plagiarized texts is in general legal in all cases but two. The first of these two exceptions is irrelevant to the kind of self-archiving BOAI is concerned with, and for the second there is a legal alternative.

Exception 1: Where exclusive copyright in a "work for hire" has been assigned by the author to a publisher—i.e., the author has been paid (or will be paid royalties) in exchange for the text—the author may not self-archive it. The text is still the author's "intellectual property," in the sense that authorship is retained by the author, and the text may not be plagiarized by anyone, but the exclusive right to sell or give away copies of it has been transfered to the publisher.

Exception 1 is irrelevant to BOAI, because BOAI is concerned only with peer-reviewed research, for which the author is paid nothing, and no royalty revenue is expected, sought, or paid.

Exception 2: Where exclusive copyright has been assigned by the author to a journal publisher for a peer-reviewed draft, refereed and accepted for publication by that journal, then *that draft* may not be self-archived by the author (without the publisher's permission).

The pre-refereeing preprint, however, has already been (legally) self-archived. (No copyright transfer agreement existed at that time.)

So in those cases where the publisher does not agree to modify the copyright transfer agreement so as to allow the self-archiving of the refereed final draft ("postprint"), a corrigenda file can instead be self-archived, alongside the already archived preprint, listing the changes that need to be made to make the pre-refereeing preprint conform to the refereed postprint.

New Journals

How do open-access journals pay their operating expenses?

The answer to this question has two parts. (1) First, open-access journals cost much less to produce than print journals or toll-access online journals. (2) Second, there are funding models that do not require limiting access by charging readers or their institutions. Let's take them in this order.

1. Open-access journals will realize significant savings by publishing online-only, rather than in print, and by dispensing with the costs of managing subscriptions and the expensive apparatus for distinguishing authorized users from unauthorized users and blocking access to the unauthorized. Moreover, there is now free and affordable software to automate nearly every operation of an online journal except the exercise of judgment by editors and referees.

2. Any funding model that does not charge readers or their institutions for access can work here. That means no subscription fees, no licensing fees, no pay-per-view. Where else could the money come from? There are many possible sources, and the BOAI does not favor one over another. As the BOAI puts it, "[t]here are many alternative sources of funds for this purpose, including the foundations and governments that fund research, the universities and laboratories that employ researchers, endowments set up by discipline or institution, friends of the cause of open access, profits from the sale of add-ons to the basic texts, funds freed up by the demise or cancellation of journals charging traditional subscription or access fees, or even contributions from the researchers themselves. There is no need to favor one of these solutions over the others for all disciplines or nations, and no need to stop looking for other, creative alternatives."

Impact

What consequences do you foresee from this initiative?

We expect to gather a large number of signatures from individuals and organizations. We expect that each signatory will work to advance this cause in at least some the ways that they can. We expect to see many more universities create institutional archives for self-archiving and adopt policies encouraging faculty to make their preprints and refereed postprints freely accessible through them. We expect to see new journals in every field committed to open access. We expect to raise a significant amount of money to expand the scope of self-archiving, to launch new open-access journals, and to convert existing journals willing to adopt open access. We expect to see a steady growth in the open-access portion of the peer-reviewed research literature. We expect that younger scholars will enter the academy expecting open access as a matter of course, both for their own writings and the writings they wish to read for their research. We expect that taxpayers will demand open access to research funded by the government. We expect that the beneficiaries of research, such as medical patients, will demand the removal of unnecessary and artificial barriers to research so that the contributions to knowledge freely donated by their authors will be freely available for use by researchers everywhere.

What is the intended impact of BOAI on journals that do not offer open access to their contents?

Journals that do not wish to provide open access have nothing to fear from BOAI except competition. We do not endorse the piracy or expropriation of their intellectual property. We do not demand that they change their access policies and do not threaten them with boycotts or other sanctions if they do not change. We encourage them to offer open access, and will help find the money to defray the costs of the transition to open access for journals willing to make the change. We hope that journals not offering open access will at least cooperate with authors who want to self-archive their articles. We will also help to launch new open-access journals, which will compete with journals that do not offer open access. Our goal is not to put for-profit publishers out of business, but to provide open access to as much as possible of the peer-reviewed research literature. If publishers are willing to help this cause, we will welcome them. If they are unwilling, we will pursue our goal without their help.

Our project is constructive, not destructive. We will help launch new journals that test, refine, and take advantage of new cost-recovery models. At the same time, we will help provide immediate open access through self-archiving. Both methods are within reach of scientists and scholars themselves. For our constructive activity to succeed, no institution or business needs to change its policies. However, we welcome the assistance of all who share our vision.

Will BOAI harm the good causes subsidized by journal revenues?

No, in the sense that journals subsidizing the activities of professional societies or money-losing publishing projects of university presses (or other worthy causes) need not stop charging subscription fees.

Yes, in the sense that open-access journals will exert additional competitive pressure on all priced journals.

However, the downward pressure on journal revenues is occurring regardless of BOAI. As Association of Research Libraries data demonstrate, library budgets are not rising fast enough to keep pace with the rising costs, forcing libraries to cut back journal subscriptions. To many societies it has been clear for some time that they must become less dependent on institutional subscription revenue.

We believe that the opportunity created by the internet for open access to peer-reviewed research literature should be seized even if the revenue from priced editions of this literature supports good causes. If a significant public good can be made available free of charge, then it shouldn't be priced simply to subsidize another good. If the second good is worthy, there must be some other way to support it.

What is the intended impact of BOAI on libraries that wish to acquire and curate all kinds of literature?

We do not call on libraries to stop acquiring or curating priced literature of any kind. We do not call on libraries to change their serials policies, since they already take price into account alongside other criteria such as usage and impact. We do not call on libraries to cancel subscriptions based on price alone or to put price above other criteria. We do not ask libraries to boycott any kind of literature or any kind of publisher.

The BOAI is about a particular kind of access to a particular body of literature. It is entirely compatible with other kinds of access to other bodies of literature. Even for the body of literature that concerns us, much of it will not be accessible in the way we desire for some time. Libraries should serve their patrons today by offering them the literature they need, and support them tomorrow by helping us make more and more of that literature freely available. In addition to supporting open-access journals, libraries can advance this cause by assisting faculty in self-archiving their research articles and hosting the institutional archive.

What is the intended impact of BOAI on researchers, teachers, consumers, and others who wish to buy, assign, or use priced literature?

We do not ask researchers, teachers, consumers (or anyone else) to boycott any kind of literature or any kind of publisher. If the literature they need for their research, their courses, or their pleasure is not freely available online, then they should buy or borrow what they need. We ask them to help this cause by making their own writings freely available online, not by distorting their research projects or coursework by favoring open-access literature that doesn't meet their needs.

What is the intended impact of BOAI on initiatives to make scholarly literature affordable rather than free?

We hope these initiatives succeed, because their success will make scholarly literature more accessible than it is today. However, we believe that that the specific literature on which BOAI focuses, the peer-reviewed research literature in all disciplines, can and should be entirely free for readers. If the initiatives working on affordable literature are persuaded by the case we have made, then we welcome them to join us. If they are not persuaded, then we wish them success in making progress toward wider access.

A more complete and growing BOAI FAQ document appears on the Web at <http://www.earlham.edu/~peters/fos/boaifaq.htm>.

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WHERE DO THE NEXT "WE" COME FROM?

RECRUITING, RETAINING, AND DEVELOPING OUR SUCCESSORS

by Paula T. Kaufman, University Librarian, University of Illinois at Urbana-Champaign, and ARL President

Recruiting librarians to work in research libraries has never been easy. Today, however, it seems to be harder than ever, just as it is in other sectors of librarianship. The recent news that President Bush has proposed $10 million to recruit and educate new library professionals has been met with much celebration throughout all types of libraries for, in addition to meeting the challenges of recruiting librarians to fill new positions, we face the daunting task of replacing unprecedented numbers of librarians who will retire over the next 20 years.[1] As Susan Kent of the Los Angeles Public Library said recently, our most serious problem is "how to replace ourselves."[2]

Issues of recruiting and retaining academic librarians and of identifying and developing leaders from among them are intertwined, and not unique to librarianship. Last year, Shelly Lazarus, Chairman and CEO of Ogilvy & Mather Worldwide, a major advertising agency, said in the *New York Times*, "There's so much opportunity for young people now.... The challenge for us is to figure out how to keep those people long enough that they are ready to become CEOs."[3] And one only has to watch prime-time network television to see Johnson & Johnson's "dare to care" ad, which touts the rewards of the nursing profession. Imagine, a major company investing money to help recruit people to become nurses!

We have long known about the problem. Stanley Wilder has documented well the graying of the academic library profession, confirming what most of us have been observing.[4] Although more academic librarians are retiring now than in recent memory, recruitment pools are small and, although they contain wonderfully strong people, they are not necessarily characterized by them. In addition, it is becoming increasingly difficult to interest frontline librarians in taking on managerial responsibilities, and just as difficult to entice middle managers to consider assuming the responsibilities of senior library positions.

President Bush's support for more students of library and information science is welcome news indeed. It appears that, in recent years, smaller percentages of students pursuing graduate degrees in library and information science have moved into traditional libraries. New opportunities in the private sector, albeit slowing slightly but temporarily in the current economy, appear to be luring more graduates with the promise of interesting work and robust salaries.

We know there also are other factors that have deterred new entrants to academic and research libraries, including comparatively low salaries and the rise of dual-career couples that limits mobility.[5] And, I think perhaps there's another little-discussed factor at work. Back when I began my library career, more than 30 years ago, many professional jobs were, quite frankly, boring. They were rich with nonprofessional work and, because the environments of many academic libraries still resonated with (more than) remnants of the patriarchic bureaucracies that characterized post-WWII academia, librarians had little if any involvement, let alone input, into decisions, directions, new services, and all of those other things in which our academic librarians are so engaged today. My perception is that, as a result, there was a fair amount of moving from library to library in search of jobs with richer content, opportunities to participate in decision making, and better compensation packages. The only sure road to higher salaries was to move into managerial ranks, either in one's own institution or at another location. Thus, in addition to the many more graduates of library and information science programs who entered the market each year,[6] it seems as if there were many more experienced librarians also seeking new opportunities.

To sum it up, we have fewer graduates of library and information science programs than in the past and these graduates have more diverse opportunities than ever before. Our workforce is graying at unprecedented rates. More librarians seem to be content to stay in their current institutions, and many librarians are uninterested in leaving their specialties to embark upon managerial paths. In addition to the challenges of recruiting people to fill jobs in our libraries, how will we meet the challenges of recruiting new people to our profession, developing and retaining them in our institutions, and making management positions attractive alternatives to their current jobs?

Generational Differences

As an early baby boomer now turned grandmother, I often marvel at the different ways different generations perceive and view things. Demographers such as Judith Nichols, from whom we will hear at the ARL May Membership Meeting, identify five current generations, four of whom represent groups of our employees. Each generation embodies different sets of perspectives, lifestyles, and financial styles. Nichols articulates the differences this way:[7]

Birth years 1901–1924:
Depression or G.I. Generation
Lifestyle: CIVIC "We fought for it."
Financial style: CAUTIOUS "Save, save, save."
Birth years 1925–42:
Silents or Eisenhower
Lifestyle: ADAPTIVE "We earned it."
Financial Style: BALANCED "Save, then spend."
Birth Years 1943–1960:
Baby Boom
Lifestyle: IDEALISTIC "We deserve it."
Financial Style: GREEDY "Spend, spend, spend."
Birth years 1961–1981:
Baby Bust of Generation X
Lifestyle: REACTIVE "We won't get it."
Financial Style: RESIGNED "It's hopeless."
Birth Years 1982–1992:
Baby Boomlet or Generation Net
Lifestyle: CIVIC
Financial Style: PROTECTED

Nichols goes on to compare the three major generations who are our workers (and our fund-raising targets) this way. Mature Civics (55 and older) value duty and tend to be team players. Boomers (33 to 54) place a high value on individuality and youth. Busters (younger than 33) approach life pragmatically. Clearly, understanding the differences among the generations is critical to successful recruiting and retention strategies.

Recruiting Strategies

Research libraries have long used a number of proven recruiting strategies. These include such techniques as supplementing typical advertising venues with listservs, personal contacts, and networks; ensuring that the qualifications sought are flexible and open; selling the library, the institution, and the community; speeding up search and recruitment processes and applying creative ways to move quickly within one's institutional strictures; offering signing bonuses, higher salaries, and creative compensation packages; using institutional or developing library-based partner hiring programs; developing focused internship programs; using search firms; holding open houses, participating in job fairs and traveling to library school locations to recruit; identifying and mentoring student workers; involving teaching faculty in the recruiting process; emphasizing to all librarians and staff the importance of their roles in the recruiting process; and offering relocation and sometimes even mortgage loan help.

But, clearly this is not enough. There are other approaches to both recruiting and retaining talented employees that we should consider. Here is a sampling.

Post-Job Libraries

To be successful recruiters, we also must examine just what we are trying to recruit talented librarians to do, and consider designing, changing, or perhaps even ending what we now know as "jobs."

Conventional wisdom used to be that an organization designed and described jobs with some degree of specificity and hired people to fill them. But many savvy companies have shifted their focus from having people perform specific duties to getting the work done. This provides a very provocative and interesting model for research libraries to consider. Although there are numerous barriers that abound in the institutions that house our libraries, these barriers often can be hurdled. Instead of filling jobs, we should consider hiring talented people for the general areas in which we need them, and then designing jobs around them. Or letting them get the work done. Or hiring talented people and helping them find the best things for them to do.

If this is to be a successful strategy, we will need to provide the post-job employee with extremely flexible organizations. Policies will need to change; new training programs will need to be developed; different kinds of communication will be required. Careers will have to be reconceptualized and career development will have to be reinvented. The answers to the following questions ultimately will determine an organization's success:

- Is the work being done by the right people?
- Are the core tasks being done in-house and are other tasks being outsourced, done by temporary employees, or contracted to term hires?
- Are the people who do the work in each of these categories chosen in such a way that their desires, abilities, temperaments, and assets are being matched with the demands of the tasks?
- Is everyone given the information they need to understand their part in the larger tasks? Do they have the understanding they need to succeed?
- Does the way people are organized and managed help them complete their assignments, or does it tie them to outmoded expectations and job-based assumptions?
- Are leaders being developed and nurtured? Are we identifying and mentoring our successors?[8]

> *Instead of filling jobs, we should consider hiring talented people for the general areas in which we need them, and then designing jobs around them.*

Even where job ending is neither practical nor desirable, the underlying ideas are worthy of careful consideration. Job flexibility, hiring good people and then designing jobs for them, and reconsidering where and how people do their work are all viable strategies for creating an environment to which professional librarians will be attracted and in which they will stay.

Internship and Development Programs

Although traditional academic library internship programs have had some success, they are limited in the numbers of people they reach, and they are often hard to sustain over the long term. ARL's Leadership and Career Development Program and its Initiative to Recruit a Diverse Workforce provide interesting paradigms for cooperatively designed and funded approaches. Leveraging funds for mutual advantage need not be done only on a national basis, however. There are many opportunities to create and develop similar, but smaller, programs to attract people who have not yet made career decisions, or who may be considering career changes, or who want midcareer development opportunities. Once these people are identified, we will need to provide internship or development opportunities within our libraries and design individualized academic degree programs that recognize the previous educational levels, skills, and experiences some of these potential recruits bring to our organizations. Midcareer internships, such as those run by the Council on Library Resources (now the Council on Library and Information Resources, or CLIR), were very effective, but also very expensive. Today, CLIR's Frye Institute provides a different, but equally useful and effective professional development opportunity for midcareer librarians, information technologists, faculty, and others who aspire to make a difference in the conception, design, and delivery of information services within their institutions.

To develop interest in library management, a rarely tried but intriguing approach is that of "internal internships," in which a librarian is relieved of his or her regular assignments for six to nine months to work on special projects or to "shadow" an administrator. Resulting assignments to fill the intern's usual role by someone else provide additional opportunities for librarians to taste the flavor of another job without having to commit to it on a long-term basis, and without having to relocate geographically. A twist on this idea is a focused internship program offered by a single institution to librarians from other universities. One example is the internship program recently developed at the Mortenson Center for International Library Programs at the University of Illinois at Urbana-Champaign. The intern (the first of which is from the University of Toronto) will work in residence at the Center for six weeks, helping to develop and deliver a specific set of programs to a group of librarians from South Africa. The intern will subsequently travel to South Africa to continue the program, the goal of which is to develop *in situ* trainers. The intern is expected to return to his or her home institution prepared to develop other internationally focused programs and to infuse his or her colleagues with an appreciation for the urgency of understanding international librarianship.

Other Partnership Approaches

There are a myriad of partnership opportunities. For example, in partnership with library schools and relevant professional associations, research libraries, either individually or in groups, would work with K–12 schools to introduce librarianship as a career throughout the various grades. Libraries could offer meaningful internship and job opportunities to high school students, along with special programs and encouragement. Campus-sited summer "library camps" (but with more alluring titles), designed to help students think critically about their information needs and wend their way through the ever-more-complex information morass, could be attractive supplements or alternatives to the "computer camps" that attract so many teens and preteens to campus in the summer. We must be alert to students we identify through these programs, along with those we identify in their undergraduate years, mentoring them carefully, aiding their entry into schools of library and information science, and following/assisting them throughout their careers.

In another possible model, again teaming with schools of library science, research librarians would work vigorously to identify graduate students or recent degree holders (at all levels) who are unhappy with their job opportunities and who might not have yet thought about research librarianship as a career. Instead of waiting for them to discover librarianship, we should be aggressive in seeking them out. And, instead of requiring that they attend graduate school for another two years or so, we should consider designing programs based on current executive M.B.A. programs. In my vision, students in the program would come together for one to two weeks prior to the start of each academic year, thus forming a cohesive cohort. They would take classes either on campus or through distance learning technologies, with those class (and their face-to-face) sessions designed specifically for students who have already taken and taught many graduate courses. Programs need not require two years to complete and could and should be individually designed. And libraries need not wait until degrees are awarded to employ these students to carry out appropriate professional work.

> *To develop interest in library management, a rarely tried but intriguing approach is that of "internal internships"…*

Diversity Issues

Although student bodies in America's research universities are diverse, many of their library staffs are not. Data collected by the American Library Association's (ALA) Office for Research and Statistics in 1998 indicate that 87% of academic librarians are white; the most recent data collected on school librarians by the National Center for Education Statistics also show that 90% are white. ALA's analyses of the *Library and Information Science Education Statistical Report* published annually by the Association for Library and Information Science Education (ALISE) indicate that graduates of ALA-accredited masters degree programs in library and information science for the years 1991–1997 range in percentages from 88–92% white. And, according to the *ARL Annual Salary Survey 2001–2002*, in U.S. ARL academic libraries, 88% of professional staff are white.[9] Stanley Wilder observes that new entrants to careers in ARL libraries are increasingly diverse—from 1985 to 2000, the percentage of minority new hires in ARL libraries rose from 8% to 15%—but it will take time for this trend to impact the research library profession as a whole.[10] This lack of diversity clearly impacts library services, including interactions with library users and the development of collections and access to a wide range and variety of information resources.

In addition to enhancing and intensifying many of the recruiting and development methods and ideas already discussed, research libraries must focus on issues surrounding the work environments they provide if they want to recruit and retain a diverse workforce. Research studies that focus on faculty in general show that faculty of color experience social isolation, subtle (and occasionally overt) prejudice, lack of mentors, and ambiguous expectations. My observation is that minority librarians often experience these same pressures. These findings suggest the need to concentrate on changing workplace environments.

Mentoring Future Leaders

Most of us do not need to read the spate of literature attesting to the value of continuous professional development programs. We have observed their success, and often personally benefited from them. But, professional development programs alone cannot do the job of developing individuals to take leadership roles in research libraries. They must be supplemented by, and eventually serve as supplements to, individual mentoring programs.

Much has been written about mentoring, so there is no need to recite a litany of what we all know. In many ways, mentoring programs seem contradictory to our environments of openness, participation, and equity, for they require that we identify and select individuals and provide special one-on-one development. Mentoring takes time, lots of time, and it takes the courage to open doors for "mentees" and encourage them to walk through them, on paths that are different than we have taken, to heights and parts unknown. In today's, and tomorrow's, worlds mentoring can make the difference between success and failure to lead; it can make the difference between developing people to succeed us successfully or letting the chips fall where they may. Previous generations of academic library leaders have fulfilled this obligation, and so will we, for in the end it may be the most powerful tool we have.

Conclusion

Each one of us has a different story to tell about how and why we became librarians, how and why we decided to work in research institutions, how and why we took the career paths within (and outside) them that we did, and how we have been mentored throughout our careers. We cannot generalize from these stories very well, but the lesson we should draw is that there is no one right way to recruit and retain academic and research librarians. We must use basic tried-and-true techniques in new and creative ways, and we must consider all ideas, wacky as some might sound.

I will be disappointed if the ideas presented here are not at the low end of the creativity scale. I encourage every reader to send me your better ideas <ptk@uiuc.edu> and I'll feature them in a subsequent piece. Let's brainstorm together and find more effective ways to attract people to join us, and stay, in the joy and pleasure of this profession.

[1] Stanley J. Wilder, *The Age Demographics of Academic Librarians: A Profession Apart* (Washington, D.C.: Association of Research Libraries, 1995): 5–15. Also available in *Journal of Library Administration* 28, no. 3 (1999): 8–11.

[2] John N. Berry III, "Librarian of the Year: Susan Kent, Los Angeles Public Library," *Library Journal* no. 1 (15 January 2002): 44.

[3] Reed Abelson, "A Leader's-Eye View of Leadership," *New York Times*, 10 October 1999, late edition, sec. 3, p. 1, col. 5.

[4] See note 1 above.

[5] Larry Hardesty, "Future of Academic/Research Librarians: A Period of Transition—To What?" *portal: Libraries and the Academy* 2, no. 1 (2002): 79–97.

[6] Many, mostly private, library schools closed in the 1970s and 1980s. Masters degrees in library science conferred from 1970–71 to 1997–98 fell from a high of 8,037 in 1975–76 to 4,871 in 1997–98. Source: *Digest of Education Statistics 2000* (Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics, n.d.): 296, table 255.

[7] Judith Nichols, "Generational Differences" (flyer), quoting Ron Zemke, Claire Raines, and Bob Filipczak, *Generations at Work: Managing the Clash of Veterans, B[illegible]rs, Xers, and Nexters in Your Workplace* (New York: AMAC[illegible] 2000).

[8] William Bridges, "The End of [illegible] Job," *Fortune* 130, no. 6 (19 Sept. 1994): 62+.

[9] See the article in this issue of *ARL* by Mark Young, "*ARL Salary Survey Highlights*"

[10] See the article in this issue of *ARL* by Stanley J. Wilder, "New Hires in Research Libraries: Demographic Trends and Hiring Priorities."

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NEW HIRES IN RESEARCH LIBRARIES: DEMOGRAPHIC TRENDS AND HIRING PRIORITIES

by Stanley J. Wilder, Assistant Dean for Information Management Services, River Campus Libraries, University of Rochester

Thousands of librarians will be retiring in the next 10 years[1] and, when they do, they will take with them a vast supply of accumulated expertise, and leave behind a host of new staffing and organizational issues. The approaching wave of retirements may be the most important human resources phenomenon facing the profession, but it is a phenomenon over which the library community will have virtually no control. We can no more manage the retirements in our ranks than we can the weather.

The real management issue resulting from retirements is replacements: how can librarianship recruit new entrants to the profession in sufficient numbers, quality, and expertise to replace its retirees? This article is intended to address one small portion of this question, by describing demographic trends among those recently hired at ARL member libraries and the kinds of positions they fill. The data used to support this analysis come from the electronic data sets from ARL's Salary Survey, from 1980 to 2000.

New Hires

New hires are the single most important indicator of the health and future direction of libraries. (In this study, a "new hire" is an individual in the Salary Survey data with a value of 0 or 1 in the variable "years in library.") They signal the ability of libraries to either afford or recruit new staff, but more importantly, they provide a snapshot of the kinds of expertise sought at a given point in time.

Number

There were 1,079 new hires in 2000, up 35% from just two years before. (See Table 1.) The 2000 figure marks the highest level in the available data. New hires in Canadian ARL libraries, however, have increased only slightly, and continue to lag well behind those in the U.S.

TABLE 1: NUMBER OF NEW HIRES AND PERCENTAGE OF POPULATION BY YEAR CANADA, U.S., AND TOTAL

	Canada		U.S.		Total	
Year	#	%	#	%	#	%
1986	28	3.4	834	12.1	862	13.0
1990	49	5.8	1,009	13.4	1,058	15.1
1994	24	2.9	778	10.5	802	10.8
1998	22	3.1	775	10.1	797	11.0
2000	31	4.1	1,048	12.9	1,079	14.4

TABLE 2: TOP SIX NEW-HIRE JOB CATEGORIES, 1985 COMPARED TO 2000

	1985		2000		
	# of New Hires	**% of New Hires**	**# of New Hires**	**% of New Hires**	**% Change**
Reference Librarian	214	25.27	322	29.84	**50%**
Cataloger	154	18.18	84	7.78	**-45%**
Functional Specialist	82	9.68	243	22.52	**196%**
Public Services	75	8.85	47	4.36	**-37%**
Subject Specialist	59	6.97	95	8.80	**61%**
Head, Other	58	6.85	76	7.04	**31%**

TABLE 3: NUMBER AND PERCENTAGE OF NEW HIRES BY RACE/ETHNICITY

Number of New Hires

	1985	1986	1990	1994	1998	2000
Caucasian/Other	738	757	886	778	671	886
Minority	68	77	122	96	104	162
African American	31	34	41	36	37	67
Hispanic	7	11	29	17	16	26
Asian or Pacific Islander	29	29	50	43	48	67
American Indian or Native Alaskan	1	3	2	0	3	2

Percentage of New Hires

	1985	1986	1990	1994	1998	2000
Caucasian/Other	91.6	90.8	87.9	87.7	86.6	84.5
Minority	8.4	9.2	12.1	12.3	13.4	15.5
African American	3.8	4.1	4.1	4.6	4.8	6.4
Hispanic	0.9	1.3	2.9	2.2	2.1	2.5
Asian or Pacific Islander	3.6	3.5	5.0	5.5	6.2	6.4
American Indian or Native Alaskan	0.1	0.4	0.2		0.4	0.2

Hiring Priorities for New Hires

Hiring priorities have changed substantially between 1985 and 2000. Table 2 presents the top six job categories among new hires in 1985, and compares their numbers to 2000. Note that the overall ARL population grew by 18% in this period.

The most dramatic change in Table 2 is the burgeoning number of functional specialists, now the second largest job category among new hires. If one compares the rate of growth of functional specialist new hires between 1990 and 2000 to that of reference librarians and then projects that growth into the future, we find that new hires for functional specialist positions would overtake those for reference by 2003.

What is a functional specialist? According to the instructions for the 2000 survey, functional specialists are

> …media specialists, or…experts in management fields such as personnel, fiscal matters, systems, preservation, etc. Specialists may not be, strictly speaking, professional librarians (i.e., have the MLS). The "specialist" category would generally not be used for someone with significant supervisory responsibilities, who should instead be listed as a department head or assistant director….[2]

In 1998, 61% of new hires in functional specialist positions were hired for systems analysis/programming positions, and the remainder were spread among eight other job specializations. Functional specialists are thus predominantly individuals hired for IT-related positions.

Library Degree

It has become common that new hires to ARL professional positions have no library degree. In 1985, just 7% of new hires had no such degree, but this figure grew steadily to 20% in 2000. This trend is fueled in part by the growth in hires to functional specialist positions. In 2000, 48% of functional specialists had no library degree, compared to just 12% of other job categories

Minorities

The minority portion of the overall population has changed little since 1985, but there has been steady progress in the percentage of minorities among new hires. (See Table 3.) For example, the Hispanic portion of the new-hire population more than doubled in that period, while the Asian and African American portions nearly doubled. The increase in the number of minorities among new hires is a measure of success for the diversity efforts of ARL libraries, but it may be some time before these numbers have an appreciable affect on the overall ARL population.

New Professionals

"New professionals" are a subset of new hires; they are new hires who have a value of 0 or 1 in ARL's "years experience" variable. The number of new professionals has increased consistently at about 12% per year between 1996 and 2000. (See Table 4.) Between 1980 and 2000, the number of new professionals peaked at 495 in 1989. While the 2000 figure of 447 is the second highest number since 1980, there has been little change in the level of new professionals as a percentage of the overall population.

Movement between Libraries

The ARL data cannot produce actual turnover rates, but they do provide one interesting, albeit limited, approximation. By using the variables "years of professional experience" and "years in library," one can determine the number of individuals, at each experience level, who have worked at only one library in the course of their professional careers. Table 5 presents the results of this analysis for staff with zero to five years of professional experience.

There are two potential explanations for the sharp drop-off in Table 5. First, individuals hired into ARL libraries as new professionals may tend to change libraries soon thereafter. Second, ARL libraries do substantial hiring of individuals in the first five years of their professional careers. For example, in 2000, 25% of new hires had between two and five years of professional experience. The simplest explanation for this phenomenon may lie in life-cycle factors not entirely under the control of library managers.

TABLE 4: NUMBER OF NEW PROFESSIONALS AND PERCENTAGE OF POPULATION BY YEAR

Year	New Professionals	Percentage of Population
1980	369	5.6%
1981	306	4.4%
1982	316	4.6%
1983	277	3.9%
1984	314	4.4%
1985	415	5.5%
1986	347	4.5%
1987	383	4.8%
1988	393	4.9%
1989	495	6.0%
1990	425	5.1%
1991	330	4.0%
1992	304	3.7%
1993	312	3.8%
1994	334	4.1%
1995	308	3.8%
1996	286	3.4%
1997	302	3.6%
1998	338	4.0%
1999	392	4.6%
2000	447	5.1%

TABLE 5: NUMBER AND PERCENTAGE OF STAFF WHO HAVE WORKED IN ONLY ONE LIBRARY, 2000

Years of Experience	Number	Percentage
0	77	100%
1	304	87%
2	254	59%
3	272	58%
4	215	42%
5	243	37%

TABLE 6: TOP SIX NEW-PROFESSIONAL JOB CATEGORIES, 1983 COMPARED TO 2000

	1983		2000		
	#	%	#	%	% Change
Reference Librarian	77	27.8	156	34.9	103%
Cataloger	70	25.3	38	8.5	-46%
Public Services	38	13.7	25	5.6	-34%
Subject Specialist	25	9.0	34	7.6	36%
Functional Specialist	22	7.9	137	30.6	523%
Technical Services	22	7.9	15	3.4	-32%

Hiring Priorities for New Professionals

Table 6 illustrates that functional specialists have supplanted catalogers among new professionals, as well as among new hires.

Two Futures

Cataloging and functional specialists positions provide two divergent perspectives on the meaning of the above trends, one threatening, one encouraging.

Cataloging

In 1986, professional staff in cataloging were among the youngest groups in the ARL data. This is not surprising, given cataloging's traditional role as one of two major entry points for new professionals. For example, reference and cataloging alone accounted for 64% of all new professionals hired in 1985. Just 14 years later, the cataloging population became one of the oldest groups. In 2000, 32% of catalogers were aged 55 and over, a proportion almost twice as large as that of the comparable reference population.

The aging of the cataloging population, unusual even by ARL standards, is almost certainly the result of a remarkable drop-off in hiring. Between 1985 and 2000, the number of new hires to cataloging positions dropped 45%, and new professionals by 64%. The drop in hiring for cataloging positions together with high retirements almost certainly accounts for the drop in the overall number of catalogers, down 28% in this same period. Clearly, libraries are diverting resources away from staffing professional cataloging positions, and the data provide no hint as to when and at what level the downward spiral will end.

The advanced age of catalogers is cause for concern that libraries may not be able to replace their exiting catalogers, even given a reduced level of need. It is also possible that reduced hiring for cataloging in recent years has had an effect on library education, leading to a de-emphasis of cataloging in the curriculum, and reduced numbers of students taking up the discipline.[3]

Functional Specialists

But impending retirements provide some opportunities as well as threats. The burgeoning of the IT-dominated functional specialist job category brings to mind the last great generational shift, the staffing boom that brought thousands of people into librarianship in the 1960s and '70s. That generation also brought new skills to a changing profession, in a way that appears now to have been healthy, even necessary.

Through concerted efforts over the past 30 years, libraries *have* succeeded in reducing their need for some forms of library expertise. But in the meantime, libraries have developed needs for new kinds of expertise. Librarianship is fortunate that, as information undergoes its first revolution since Gutenberg, the profession appears positioned to take on substantial numbers of new people with new skills to help it adapt. By this view, there is no cause for alarm if functional specialists do not look more like traditional librarians. In fact, the long-term interest of librarianship may make those differences necessary, just as they were for the generation before them. Now, as before, the kids are alright.

Or the kids *will* be alright, provided there are enough of them. The profession's most important task is to bring fresh ideas to bear on the questions of professional education, recruitment, and compensation, so as to make librarianship a more attractive choice for young people. For those kids smart enough to make this choice, it only remains for veteran librarians to prepare them for success. It is like parenting, in the sense that these elders can be a living link between librarianship's past and future, transmitting what they know, and what they value, and the honorable role they serve in our culture.

[1] Approximately 52,000 librarians were aged 55 and over in 2000, according to the U.S. Department of Commerce, Bureau of the Census, *Current Population Survey* (Washington, D.C.: Bureau of the Census, n.d.): table 12, "Employed persons by detailed occupation, sex, and age. Annual Average 2000."

[2] Martha Kyrillidou and Michael O'Connor, comps. and eds., *ARL Annual Salary Survey 1999–2000* (Washington, D.C.: Association of Research Libraries, 2000): 99.

[3] Jodi Lynn Spillane, "Comparison of Required Introductory Cataloging Courses, 1986 to 1998," *Library Resources & Technical Services* 43, no 4 (1999): 223–30.

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CORE ELEMENTS OF ARL LIBRARY STAFF DEVELOPMENT PROGRAMS

by Joan Giesecke, Dean of Libraries, University of Nebraska–Lincoln, and Charles B. Lowry, Dean of Libraries, University of Maryland

The ARL Research Library Leadership and Management Committee has been investigating the question of how to define successful staff development programs and how to identify best practices in this area. The committee solicited volunteers from among ARL member institutions to provide examples of best practices and to identify key characteristics of these programs that make them successful. The committee found that organization of a staff development program is greatly influenced by local factors. Some libraries have extensive support from campus offices for staff development, others have access to corporate training in partnership with their institutions, while still others must develop and design their programs using only library resources.

Because the local environment influences the type of structure for the program as well as the type of offerings, the committee concluded that there is not a comprehensive one-size-fits-all model for staff development that will work in every ARL library. Given this conclusion, the committee decided the most useful approach was to identify core elements that are present in successful programs and highlight some examples of best practices.

Core elements

1. **Coherent curriculum.** A coherent set of courses or training sessions is provided. The curriculum is tied to the management philosophy of the organization and/or core competencies. A series of one-shot, unrelated programs is not as effective as a coherent set of courses that are regularly available.

2. **Staff dedicated to program coordination.** Providing a coherent program takes continuous coordination. Full-time staff assigned to this area are crucial for developing a successful program. Trainers can come from all areas of the libraries, the campus, or outside agencies and organizations. The coordinator needs to have the authority and responsibility to ensure that the curriculum is delivered as needed to the staff.

3. **Target groups identified for training.** Not all staff need the same training. Effective programs identify the staff or groups of staff that are appropriate for any particular course. In successful programs, individual participation in training may be mandated and is never viewed as a break from work, but rather as an opportunity to improve skills needed for the job.

4. **Program assessment and evaluation.** An effective program includes an assessment component to measure the impact of the training and to provide feedback to the coordinator on how to improve and advance the program.

5. **Resources.** Funding for the program can come from endowments, operating funds, etc., but resources must be designated for the program. Resource allocation also illustrates administrative commitment.

6. **Partnerships.** Successful programs have developed partnerships with others on campus or in the community to leverage resources. Partnerships leverage interorganizational effort and avoid "re-inventing the wheel" by building on the expertise of others.

7. **Commitment from the Dean.** Administrative support and commitment is important. Staff should understand that participation in training is expected and desired by the organization, that training is viewed as a permanent part of workplace success, and that it is an essential feature in organizational culture. Supervisors need to know that they are to encourage staff to participate. For any of this to happen, the coordinator of the program needs to have the full support of the administration in order to schedule courses and ensure that staff participate in any mandatory training.

Next Steps

The Research Library Leadership and Management Committee will work with 12 ARL member institutions (University of Alberta, Auburn University, Brown University, University of Florida, Library of Congress, University of Maryland, Michigan State University, University of Minnesota, University of Nebraska–Lincoln, New York Public Library, University of Tennessee, and University of Washington) to identify some of the best practices in staff development in ARL libraries. The committee proposes to share information about best practices via the ARL Web site at <http://www.arl.org/olms/staffdev/key_components.html>, with links to specific program information. The Web site is seen as a central resource to provide information to ARL members and to encourage members to share information about best practices at their institutions.

In today's environment, staff development and training programs are necessary to ensure that staff have the skills they need to adapt to the changing environment. And given tight budgets, as managers, we must be sure that we are getting the most value for our training dollars. Sharing best practices and expertise among our members is one way to help us develop more effective programs for our own institutions.

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USING LIBQUAL+™ AND DEVELOPING A CULTURE OF ASSESSMENT IN LIBRARIES

by Consuella Askew Waller, LibQUAL+™ Program Specialist, ARL, and Kaylyn Hipps, Editorial and Research Associate, ARL

In conjunction with the American Library Association's Midwinter Meeting in January 2002, ARL convened a meeting on "Using LibQUAL+™ Results" for experienced participants in the LibQUAL+™ project. LibQUAL+™ is a research and development effort that is measuring users' perceptions of library service quality across institutions via a Web-based survey. The meeting provided a forum where 44 participants shared and discussed their survey results, shared strategies for using LibQUAL+™ to implement change within their libraries, and identified "best practices" in providing quality library service. It also provided an opportunity for the LibQUAL+™ team to learn more about the needs of the library community for workshops and other activities in support of this assessment and research effort. This article reports on the LibQUAL+™ participants' experiences, challenges, and actions that surfaced at the January meeting and advocates an emphasis on training in qualitative and quantitative research methods for maximizing the usefulness of LibQUAL+™ and other assessment techniques.

Background

Spring 2002 marks the third year of the research and development phase of LibQUAL+™, a project undertaken by ARL in collaboration with Texas A&M University, and the second year of financial support for the project from the U.S. Department of Education's Fund for the Improvement of Postsecondary Education. LibQUAL+™ is one of the ARL New Measures Initiative projects, which seek to develop innovative ways for libraries to describe their contributions to their institutions. The LibQUAL+™ survey instrument is a derivation of the SERVQUAL tool created by Parasuraman, Berry, and Zeithaml for measuring service quality in the private sector.[1]

LibQUAL+™ has exceeded expectations in terms of the number of libraries participating each year. A diverse community of 12 ARL libraries piloted the first LibQUAL+™ instrument in spring 2000. This version of the survey consisted of 41 questions, incorporating 22 items from the original SERVQUAL instrument plus 19 items specific to the library community. The survey was designed to measure service quality across five dimensions: affect of service, reliability, library as place, provision of physical collections, and access to collections.[2]

During spring 2001, the survey was conducted again with 43 libraries, including some non-ARL libraries. This version of the survey instrument consisted of 56 items designed to measure service quality across the following eight dimensions: assurance, empathy, library as place, reliability, responsiveness, tangibles, instruction, and self-reliance.

In each of these iterations, the survey tool was refined based on qualitative interviews of library users throughout North America and multiple validity and reliability analyses of the quantitative survey data. Construct-validity analyses of the 2001 data resulted in a reduced set of four dimensions that are measured in the current 25-item spring 2002 survey: service affect, library as place, personal control, and information access.

The work done in the 2000 and 2001 implementations paved the way for the participation of specialized academic libraries, such as health sciences libraries, and research institutions including the Smithsonian Institution and the New York Public Library. The spring 2002 implementation has 168 participating libraries, representing a wide array of academic and non-academic institutions with varying consortial affiliations. The rapidly growing number of libraries participating in LibQUAL+™ attests to the value of this assessment instrument for the library community.

Using LibQUAL+™

The participants in the January meeting on "Using LibQUAL+™ Results" agreed that the service quality dimension that users perceive as needing the most improvement is access to collections, with library as place coming in a strong second.

Access to collections was measured by availability of complete runs of journals, the full text of articles delivered in electronic format to the desktop, speedy interlibrary loan, and easy access to remote storage. To address their users' survey responses, several libraries have already taken actions such as implementing delivery of full text to the desktop, improving interlibrary loan services, and increasing the number of regular trips to remote storage. LibQUAL+™ confirmed for the University of Arizona Library that their users' perceptions of service in electronic delivery of text to the desktop were lower than the minimal levels acceptable to those users. This information contributed to the design of three strategic projects to improve service at the library. (See the article in this issue by Robyn Huff-Eibl and Shelley Phipps on "Using LibQUAL+™ Results at the University of Arizona.")

Library as place is measured in relation to noise levels, cleanliness, personal safety, and space for collaborative work. Several libraries are redesigning spaces as a result of data gathered by LibQUAL+™ and other data-collection methods. For example, one library is creating a digital commons to respond to the need for networked space for collaboration.

Many of the participating libraries already knew that these changes were necessary; the survey confirmed those beliefs and provided evidence to justify targeted funding increases. Several libraries used additional data-gathering methods—such as focus groups and local surveys—to supplement their LibQUAL+™ results or investigate them in more detail. Another common action taken by libraries after administering LibQUAL+™ is a stronger investment in communication with users about library services in order to better inform them and manage their expectations.

The greatest challenges libraries experience in using LibQUAL+™ are: a dearth of in-house statistical skills for understanding the survey methodology and working with the data; a lack of organizational culture that encourages assessment; concern about low sample sizes as compared to print surveys (although the LibQUAL+™ response rates are high for a Web survey); negative feedback from faculty about the survey; lack of time and money to work with the results; and the need for more documentation accompanying the data.

ARL is working to remove the barriers over which it has some control. It is offering more training opportunities this year in an effort to strengthen the statistical skills of library staff and to instill assessment into library culture. Additionally, the documentation that libraries receive with their LibQUAL+™ survey data will be enhanced by including descriptive text. The group provided further suggestions for libraries, including expanding the library's dialog with faculty in the assessment process, educating staff and users about the survey, developing staff expertise in qualitative and quantitative research methods, and working assessment activities into their plans and budgets.

Where Do We Go from Here?

The prevalent challenge cited by LibQUAL+™ participants is library staff's lack of skills in analysis and research methods. This challenge, along with that of gaining the "buy-in" of faculty and staff to support the survey efforts, can be surmounted with additional training for participating libraries. If library staff members are better able to utilize and explain the results and the research methodology, they will be able to improve library service in areas that are important to their users and/or manage their users expectations more effectively. This will also inspire the administration's and faculty's confidence in the validity and reliability of the project.

How will the LibQUAL+™ team respond to this clearly articulated and substantiated need for training? In addition to the training activities and workshops already available to LibQUAL+™ participants, new workshops and programs are in the pipeline. In May 2002, ARL is sponsoring a five-day Service Quality Evaluation Academy (see accompanying article on page 13). Additionally, ARL has applied for a grant from the Institute for Museum and Library Services to develop a new series of workshops and online courses as part of an assessment program designed especially for libraries. This proposed program addresses the community-wide need for new strategies and methods of library assessment by pursuing the following goals:

- Use in-person and Web-based training to expand the pool of librarians with advanced assessment skills by teaching methods for assessing and improving outcomes and service quality.
- Foster collaborative efforts between academic libraries and university assessment offices, creating an infrastructure for organizational teams to design and develop outcomes-based library assessment programs.
- Build capacity for assessment through advocating its use and providing model programs to the broader library and museum communities.

No matter what efforts are made on a national or international level, it also takes grassroots advocacy to create change. Developing a culture of assessment within libraries is a crucial step toward establishing the importance of assessment tools and projects such as LibQUAL+™ and changing traditional paradigms of assessment measures. The steps that can be taken locally and within libraries to promote such change are key. The LibQUAL+™ instrument may prove to be an effective assessment tool but it will take the committed efforts of the library community to actively enhance library service quality.

[1] For more information on SERVQUAL, see A. Parasuraman, Valarie A. Zeithaml, and Leonard L. Berry, "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing* 64 (Spring 1988): 12–40.

[2] For more information about the dimensions of library service quality measured by LibQUAL+™, see Colleen Cook, Fred Heath, Bruce Thompson, and Russell Thompson, "The Search for New Measures: The ARL LibQUAL+ Project—A Preliminary Report," *portal: Libraries and the Academy* 1, no. 1 (January 2001): 65–74, <http://muse.jhu.edu/demo/pla/1.1cook.html>.

USING LIBQUAL+™ RESULTS AT THE UNIVERSITY OF ARIZONA: RESPONDING TO CUSTOMER INPUT—LISTENING AND ACTING

by Robyn Huff-Eibl, Library Specialist, University of Arizona Library, and Shelley Phipps, Assistant Dean for Team & Organizational Development, University of Arizona Library

In 1993, the University of Arizona Library restructured into teams to become a more customer-focused learning organization. We are currently using LibQUAL+™ as a tool to listen to customers and understand their expectations. We would like to share how we have utilized our results from the spring 2000 and 2001 surveys and some of the barriers encountered in doing so.

Background

The University of Arizona Library has 11 functional teams responsible for services to specific or general customer groups; each team is charged with assessing needs and evaluating current services. The first of the 11 teams to use LibQUAL+™ data in setting performance measures was the Strategic Long Range Planning (SLRP) Team. This team is responsible for overall library planning, including establishing goals and multi-year performance measures for the library. SLRP also allocates money to strategic projects. An important component of the strategic planning process is data collection that includes the Current Situation Analysis, a local effort to describe the current and future situation of the library. The Current Situation Analysis consists of an environmental scan identifying opportunities for and threats to the library and an internal assessment recognizing the library's strengths and weaknesses.

Purpose of LibQUAL+™

LibQUAL+™ is a tool for evaluating service effectiveness from the customer's perspective. We use LibQUAL+™ as a way to **listen** and then **act** on the information we receive. We listen to understand customers' expectations, and act on the information to improve present services or provide new services. Listening to understand the customers' expectations is a challenge for us. (Remember the library is organized in 11 functional teams, with no centralized responsibility for data collection and analysis.) Communication of LibQUAL+™ data to those who serve the customers has not been easy. We experimented with a variety of methods, such as analysis presented at an all-staff meeting, scanned versions of LibQUAL+™ data accessible through a Web site, data shared with the Strategic Long Range Planning Team, and data made available for teams to perform their own analyses.

How We Have Utilized LibQUAL+™

In 2000, our LibQUAL+™ results were utilized by the Strategic Long Range Planning Team, which compared LibQUAL+™ data with information in the Current Situation Analysis. SLRP piloted the use of the data to set multi-year performance measures. (The University of Arizona Board of Regents requires each unit to write five-year performance measures, every year measuring improvements.) In addition to other data in the Current Situation Analysis, the LibQUAL+™ data—specifically the negative gap between users' perceived level of service and their minimum level of expectations in the access to collections dimension—confirmed for us that we were not meeting customers' expectations regarding electronic delivery of text to the desktop. SLRP used this information to help frame strategic projects, but again, this was only one piece of information that fed into the creation of strategic projects. For 2001–02, SLRP created three strategic projects: (1) a Technology Planning project to improve the library's technology infrastructure, (2) a Virtual Reference Project to improve the library's information and referral processes and deliver this service to the desktop, and (3) a Marketing Project so that our customers know about improvements and new services and capabilities we are offering. SLRP also used LibQUAL+™ to experiment with writing new multi-year performance measures set from the customer's point of view, e.g., 25% increase per year in meeting customer expectations regarding access to electronic information. The strategic long-range goal then became to reduce the gap between perceived and desired service levels in this dimension.

Another area where LibQUAL+™ results have been utilized is in service to undergraduates. LibQUAL+™ showed that our undergraduates thought we should improve service in the dimensions of empathy and library as place. The Undergraduate Services Team and the Facilities Management Team, which are two of the 11 functional teams in the library, have mission-critical processes around these two dimensions. Both teams analyzed LibQUAL+™ data and established performance measures to guide the teams in improving processes in these dimensions. The Facilities Management Team has a performance measure of a 15% increase in customers' perceptions regarding facilities and equipment. The Undergraduate Services Team has a mission-critical process to create an environment in the library where undergraduate services and learning are supported; their performance measure is a 10% decrease in the gap between undergraduates' perceived and desired levels of service in the library as place dimension. LibQUAL+™ data is one of the tools that these teams use to measure their performance.

In summary, LibQUAL+™ gives our teams direction for gathering further information. It also suggests services where improvements might be expected. In the access dimension, we might expect to see electronic reserves, electronic delivery of interlibrary loan articles, and more access to electronic full-text databases as top areas on which to concentrate.

Barriers to maximizing the use of LibQUAL+™ that have been especially problematic for us include:

- Educating staff about what LibQUAL+™ is and is not. It is one set of information that should be brought to bear on decisions and actions. It is meant to be one indicator in an overall assessment strategy, not a tool to be used alone.
- Distributing the LibQUAL+™ data. There are many data sets—faculty, graduate, and undergraduate. We have placed this data on an internal Web site, which we hope will lower this barrier.
- Segmenting the data by team. This has been problematic since we have had a lower response rate than many libraries. Better marketing of the survey to our users in order to increase our response rate is an area we are trying to improve.
- Lack of skills for inferential statistical analysis in the library. We need staff members with high-level knowledge in statistics to analyze data effectively.
- Communication to external agents. Due to the format in which our Board of Regents requests data, we do not know if we will be able to use LibQUAL+™ as our tool to measure yearly improvements.

In spite of these challenges to using LibQUAL+™, the benefits we have experienced—being able to plan with a customer focus; learning how to measure customer views, which improves staff skills for other kinds of data gathering and analysis; using the survey as a marketing tool to improve customer relations; and gaining an additional, affordable data source for planning and decision making—motivated us to participate again in this spring's LibQUAL+™ survey for the third consecutive year.

Editor's note: The University of Arizona is one of six institutions that participated in the spring 2000 pilot implementation of LibQUAL+™ and chose to continue participating in spring 2001 and spring 2002. The other five institutions are University of Houston, University of Minnesota, University of Pittsburgh, Virginia Tech, and University of Washington.

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SERVICE QUALITY EVALUATION ACADEMY

ARL is sponsoring a Service Quality Evaluation Academy, an intensive five-day workshop emphasizing basic concepts and skills in measurement and data analysis that are applicable to service quality evaluations. The Academy curriculum focuses on qualitative and quantitative methods for collecting and analyzing library service quality data. Some time will be spent on relevant software skills, including the use of ATLAS.ti to analyze the content of interviews or responses to open-ended survey questions and the use of SPSS for quantitative data analysis. The workshop content is directed towards conducting service quality evaluations in general, with the expectation that participants will be able to experiment with methods and create tools to add to the cadre of new measurement tools being developed by libraries. The training will be conducted by Colleen Cook, Executive Associate Dean, Texas A&M University Libraries, and Bruce Thompson, Professor and Distinguished Research Scholar, Department of Educational Psychology, Texas A&M University.

Nineteen participants representing ARL and other academic libraries have been selected to participate in the first class of the Academy in San Antonio, Texas, 27–31 May 2002. The participants are as follows:

> Bonnie Allen, Oregon State University; Susan Anthes, University of Colorado at Boulder; Susan Beck, Rutgers University; Robert Bellanti, University of California, Los Angeles; Francine DeFranco, University of Connecticut; Irma Dillon, University of Maryland; Frank Elliott, University of Minnesota; Sue Gervais, Brown University; Doris Hendrickson, Radford University; Steve Hiller, University of Washington; Sarah McCord, Washington State University; Kurt Murphy, Arizona State University; Laurie Probst, Pennsylvania State University; Brian Roberts, Brigham Young University; Steve Shorb, University of Florida; Judy Siebert Maseles, University of Missouri–Columbia; Janice Simpson, University of Alabama; Joan Stein, Carnegie Mellon University; and Linda White, University of Virginia

Carla Stoffle, ARL Statistics and Measurement Committee Chair and Dean of Libraries at the University of Arizona, Eileen Hitchingham, Dean of University Libraries at Virginia Tech, and Sherrie Schmidt, Dean of University Libraries at Arizona State University, served as the Academy Selection Committee. The committee used the following criteria to choose the members of the first class:

- assessment experience as illustrated by the applicant's statement of interest;
- demonstrated commitment to service quality assessment efforts; and
- support of the participant's institution as demonstrated by a nomination from the library director.

For more information, see <http://www.arl.org/libqual/events/sqea.html>

STATISTICS & MEASUREMENT

Martha Kyrillidou, Senior Program Officer

ARL SALARY SURVEY HIGHLIGHTS

by Mark Young, Research Assistant for Statistics and Measurement

The forthcoming *ARL Annual Salary Survey* reports ARL librarians' 2001–2002 salaries are holding steady with inflation after several years of struggling to keep up. The combined median salary for professional library staff in U.S. and Canadian ARL universities increased 3.4% over the past year; this out-performed inflation in both the United States and Canada, as a year of economic slowdown saw the two nations' Consumer Price Indexes increase at rates of 2.7% and 2.6%, respectively. The 2001–02 survey reports on 9,198 professional staff members for the 113 ARL university libraries (including law and medical libraries), and 3,717 professional staff members for the 10 nonuniversity ARL libraries. Overall, the median university library salary was $50,724; the median nonuniversity library salary was $65,025.

The survey also indicates that the rate of increase in median beginning salaries is slowing down in the university sector. The median beginning salary in ARL university libraries increased at the same rate as the overall median (3.4%) to $34,000—a smaller rise than last year's of 5.4% but still respectable; this marks the fourth consecutive year in which universities' median beginning salary increased more than 3%. ARL nonuniversity libraries saw their median beginning salary increase sharply, at a rate of 8.2% (to $34,389), the largest such increase in eight years.

The purchasing power for the Canadian dollar continues to weaken. Canadian university libraries for FY 2001–02 recorded a median salary of $42,928, or 17% less than the U.S. median of $51,806.[1]

In the U.S., the highest salaries are found in the Pacific area, followed by New England and the Middle Atlantic. Also, the gap between salaries in private U.S. ARL university libraries and those paid in publicly supported U.S. university libraries widened still further, to an average of 6.4% (up from 4.5% last year).

Libraries with staff levels between 75 and 110 have the highest average salary, $57,833, compared to $57,046 for the largest cohort (staff over 110). Libraries with staff of 50–74 professionals paid an average salary of $53,520 and those with staff between 22 and 49 paid $52,250. The difference in salaries between the highest paying cohort and the lowest paying cohort is $5,583, almost one-fifth larger than last year's difference of $4,659.

Women's salaries at all ARL institutions averaged $53,953 in 2001–02, a 4.1% increase since last year. The average salary for men was $57,260, also a 4.1% increase. Average salaries for men surpass those of women in the majority (15 out of 27) of job categories. This differential cannot be explained completely by differentials in experience; while women average more years of experience in every category in which they average higher pay, there are several categories in which women average more experience but lower salaries. This pattern is also repeated for minority librarians: the average salary for minority men is higher than that for minority women in nine of the ten experience cohorts. Also, in a shift from recent years, the average salary for male university library directors (57 men out of 110 directorships reported) has surpassed that of female directors, by 1.1% for 2001–02. The overall gender balance in the 113 ARL university libraries (including law and medical) is 35.4% male and 64.6% female, figures that have remained relatively consistent since 1980–81.

Minority librarians comprise 12.1% of the professional staff in U.S. ARL university libraries, with the number of minorities in managerial or administrative positions being even lower (5.2% are directors; 6.3% are associate or assistant directors; and 10.1% are branch librarians). Women comprise 69.3% of minority staff.

The ARL Annual Salary Survey 2001–2002 *is available for $50 to member libraries and $120 to nonmembers (plus shipping and handling), and is available on standing order. To order online, visit <http://www.arl.org/pubscat/order/>. For more information, contact ARL Publications at <pubs@arl.org>.*

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[1] Canadian salaries were converted to U.S. dollars at the rate of 1.51919 Canadian dollars to 1 U.S. dollar, the monthly noon exchange rate published in the *Bank of Canada Review* for the period July 2000–June 2001.

ARL ACADEMIC LIBRARIANS, FY 2001–2002*

	Men	Women	Combined
Total Filled Positions	2,801	4,778	7,579
Average Salary	$57,260	$53,953	$55,175
Average Years Experience**	16.7	16.8	16.8
Total Number of Minorities (U.S. only)	252	560	812
Minority Average Salary (U.S. only)	$54,815	$51,613	$52,607
Minority Average Years Experience (U.S. only)**	13.8	15.1	14.7
Total Number of Directors	57	53	110
Average Salary of Directors	$144,314	$142,794	$143,582
Average Years Experience of Directors (filled positions)**	28.6	29.7	29.2

**Excludes law and medical libraries. **Excludes those cases with missing years of experience.*

ARL ACTIVITIES

G. Jaia Barrett, Deputy Executive Director

TRANSITIONS

Auburn: Sherida Downer was named Interim Dean of Auburn University Libraries effective 1 March. She was previously Associate Dean for Systems and Technical Services at Auburn.

Brigham Young: Sterling Albrecht will retire as University Librarian on 1 September.

UCLA: Gloria Werner, University Librarian, will retire on 30 June. Alison Bunting will serve as Interim University Librarian.

Illinois at Chicago: Sharon Hogan relinquished her role as University Librarian for health reasons. Nancy John is serving as Acting University Librarian.

Miami: Don Bosseau will retire as Director of Libraries at the end of 2002.

Minnesota: Wendy Pradt Lougee was named University Librarian effective 17 June. She is presently Associate Director of the University of Michigan Library.

South Carolina: Paul Willis was named Dean of Libraries effective this July. He is currently Director of the University of Kentucky Libraries.

ARL Staff Transitions

Kaylyn Hipps assumed the position of ARL Editorial & Research Associate. She was previously Web Developer & Analyst with the Statistics and Measurement program.

Amy Hoseth was named New Measures Projects Assistant. She was previously Managing Editor of *WorldView Today* at WorldCom, Inc.

Amy Masciola was appointed Policy Analyst for the ARL Federal Relations and Information Policy program. She comes to ARL from the National Initiative for a Networked Cultural Heritage.

Consuella Askew Waller was named LibQUAL+ Program Specialist. She joined ARL in May 2001 as the New Measures Projects Assistant.

Karen A. Wetzel was appointed Program Officer for Distance Learning and will manage all aspects of Online Lyceum activity. She has previously worked with ARL in various capabilities, primarily as Assistant Editor of *ARL: A Bimonthly Report*.

Other Transitions

American Council of Learned Societies: John H. D'Arms, President of ACLS since 1997, died suddenly on 22 January after a five-month illness. Francis Oakley was named Interim President while a search for a successor takes place.

California Digital Library: Dan Greenstein will assume the position of University Librarian and Executive Director of the CDL in May. He is currently Director of the Digital Library Federation, a position he has held since 1999.

Council on Library and Information Resources: Four new members have been appointed to the CLIR Board: Norman Fainstein, scholar of urban studies and President of Connecticut College; Michael Ann Holly, Director of Research and Academic Programs at the Sterling and Francine Clark Art Institute; Herman Pabbruwe, Senior Advisor to Wolters Kluwer New York and Amsterdam, and President of Book-Ties, a strategic consultancy company in Washington, D.C.; and James F. Williams, II, Dean of Libraries at the University of Colorado at Boulder.

Folger Shakespeare Library: Gail Kern Paster was appointed Director effective 1 July. She is currently a professor of English at George Washington University. Werner Gundershiemer retired from the Folger last year.

Institute of Museum and Library Services: Mary L. Chute was appointed Deputy Director of IMLS for Library Services effective 1 April. She comes to the Institute from the Delaware Division of Libraries/State Library, where she held the position of Director and State Librarian.

Special Libraries Association: Roberta I. Shaffer, Executive Director of SLA, stepped down from that position effective 22 February. Lynn Smith is serving as Acting Executive Director.

HONORS

Vinton Gray Cerf, Senior Vice President of Internet Architecture and Technology for WorldCom, is the recipient of the Paul Evan Peters award. The award is presented by CNI in concert with its two sponsoring organizations, ARL and EDUCAUSE. It recognizes notable, lasting achievements in the use of networked communications to advance scholarship and intellectual productivity.

Cornell University Library is a winner of the 2002 Excellence in Academic Libraries Award presented by the Association of College & Research Libraries (ACRL). The award recognizes the staff of a community college, a college, and a university library for programs that deliver exemplary services and resources to further the educational mission of the institution. The other winners of this year's award are the Andrew G. Truxal Library at Anne Arundel Community College and the Oberlin College Libraries.

Shelley Phipps, Assistant Dean for Team and Organizational Development, University of Arizona Library, was selected as the ACRL Academic Research Librarian of the Year. This award is given to a librarian who has made significant national or international contributions to academic or research librarianship and library development.

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ARL CALENDAR 2002

May 22–24	**ARL Board and Membership Meeting**	*Santa Monica, CA*
May 27–31	Service Quality Evaluation Academy	*San Antonio, TX*
June 24–28	Web Development with XML: Design & Applications	*Charlottesville, VA*
July 18–19	Creating a Culture of Assessment Institute	*Houston, TX*
July 22–23	**ARL Board Meeting**	*Washington, DC*
September 19–20	Creating a Culture of Assessment Institute	*Raleigh-Durham, NC*
September 24–26	Library Management Skills Institute I: The Manager	*Salt Lake City, UT*
October 2-3	Facilitation Skills Institute	*Washington, DC*
October 14–15	Human Resources Management Symposium	*Washington, DC*
October 15–18	**ARL Board and Membership Meeting**	*Washington, DC*
November 6–8	Advanced Facilitation Skills Lab	*Chicago, IL*
December 5–6	CNI Fall Task Force Meeting	*San Antonio, TX*

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COLLABORATE OR DIE: DESIGNING LIBRARY SPACE

by Lizabeth A. Wilson, Director of University Libraries, University of Washington

A couple of years back, memorable advertisements for J.D. Edwards & Company began appearing in magazines such as *Time, Forbes,* and *Fast Company.* A businessman stands on a busy street corner. Crowds rush by him. He holds a sign that reads "Collaborate or Die."

"Collaborate or die" may be a bit of an overstatement. Collaboration might not pose a life-or-death choice, but it is required for designing the library of the future. This article discusses the impulse for collaboration, the social nature of design, collaborative design in libraries, and lessons learned.

The Impulse for Collaboration

Collaboration grows more important every day. In a shrinking world, technological, ecological, social, economic, and political complexity increases at an accelerating rate. There are fewer and fewer arenas in which individual action suffices. Collaboration is not simply desirable it is inevitable. In all but the rarest of cases, *one* is too small a number to solve problems, educate students, create new knowledge, and produce greatness.

Jeremy Shapiro and Shelley Hughes in their *Educom Review* article, "Information Technology as Liberal Art," present a compelling case for collaboration.[1] They suggest that the saturation of daily life with information organized and transmitted via technology, and the way in which public issues and social life are increasingly being shaped by issues such as intellectual property and privacy, require an information curriculum that is multidimensional.

Collaboration is key if librarians are to educate their clientele to be critical and self-sufficient users of information. No one alone has the expertise to address the full range of information literacies outlined by Shapiro and Hughes. The broadest range of educators will need to combine their resources, facilities, and expertise.

In addition, pedagogy and learning methods have undergone a significant transformation. The guide on the side has replaced the sage on the stage. Active learning and group work are preferred over passive modalities and the solitary learner. Students are working in groups as they search for mutual understanding and create new knowledge. Collaborative learning requires collaborative space.

Libraries often represent the largest footprint on university and college campuses. This footprint has a compulsion of growing. When space is scarce and expensive, it is difficult to justify responsibly facilities that are not fully utilized. Creative minds have called for collaboration in space management. Wise souls talk in terms of stewardship rather than ownership of space.

Social Nature of Design

Design is central to many disciplines. In engineering, for example, design traditionally is described as beginning with the identification of need and concluding with a finished product. Conventional wisdom presents design as a linear, morphological process.

Recent ethnographic research portrays design in a dramatically different light. Eugene Ferguson reflects on the process of engineering design in his treatise *Engineering and the Mind's Eye.*[2] Ferguson concludes that design is not a totally formal affair, and that drawings and specifications come into existence as a result of a social process. Members of a design group can be expected to have divergent views of the most desirable ways to accomplish the work. Designers engage in informal negotiations, discussions, laughter, and banter as they wind their way to the final outcome. Like learning, design is a social process.

Collaborative Design in Libraries

What happens when the impulse to collaborate meets design? The transformation of the University of Washington's undergraduate library and collocated libraries are an outgrowth of collaborative design.

In 1994, former University of Washington Provost Wayne Clough, now President of Georgia Institute of Technology, put together a team to "do something about technology in learning." At first blush it had nothing to do with space. Upon a closer look it had everything to do with space.

The team was composed of representatives from the library, computing, and undergraduate education. Clough asked the team to address three questions: (1) could technology be used to create learning communities; (2) could technology be used to encourage engagement among faculty, librarians, and students; and (3) could information and technology literacy be integrated into the curriculum?

The team launched a small pilot called UWired. Sixty-five students were given laptops for a year, an integrated curriculum was developed, and 12 librarians and faculty were trained in the transformative use of new technologies.

At the outset, space emerged as a problem. No existing classrooms were designed to facilitate collaborative learning in a networked environment. A different type of learning space had to be built, and would be situated, appropriately, in the library.

Students, faculty, technologists, instructional designers, librarians, and an architect hammered out the design using a collaborative visioning process. At the time, there were few models to emulate and no common vocabulary to describe such a space.

The group appropriated the term "collaboratory" from a concept Nobel Laureate Joshua Lederberg proposed as an alternative structure for teaching and research at a National Science Foundation workshop in 1989.

> The collaboratory is envisioned as an advanced, distributed infrastructure which would use multimedia information technology to relax the constraints on distance, time and even reality. It would support and enhance intellectual teamwork in both research and teaching.[3]

Since 1994, two more collaboratories, a Center for Teaching, Learning, and Technology, and the UWired Information Commons have been built using a similar collaborative design process. These collaborative spaces now occupy over 16,000 assignable square feet within the undergraduate library.

The symbiotic relationship between traditional library functions and "nonlibrary" functions within the same physical structure has launched innovative services, realized significant benefits for learners and educators, and forged new relationships and administrative structures. The Program on Educational Transformation through Technology, UWired, a digital animation lab, Digital Copy Services, public art, multimedia student production, and a faculty development center now come together under one roof. While some may say these are "nonlibrary" functions, they represent the transformed library of the future, reshaped through collaborative design.

Collocated libraries also are illustrative of collaborative design. In 1994, the Washington State Legislature decided that the state's newest community college, Cascadia, and the University of Washington's Bothell campus (UWB) should be built on the same campus and share services and space to the extent possible. Shared library space and services have an appeal that can be compelling. A team familiar with the needs of community college and baccalaureate students and faculty designed programs and services for a library that opened its doors in 2000. Since Cascadia had no students, and very few staff until fall of 2000, and UWB had grown steadily for a decade in temporary quarters, planners avoided many of the challenges that arise when two mature institutions merge.[4]

The UWB/Cascadia Library and other collocated libraries such as San Jose State University/San Jose Public Library and the Nova Southeastern University/Broward County library are not an aberration. They represent a trend that is evident especially in California, where the Reading and Literacy Improvement and Public Library Construction and Renovation Bond Act of 2000 is creating a boom in public library building. Public libraries must collaborate with local schools by building joint facilities or other mutually beneficial programs to receive state support from the bond act.

Lessons Learned from Collaborative Design

Collaboration is a choice. It can't be mandated. It's hard work. It's fragile. Collaborative design doesn't come naturally.

Budget structures, administrative lines, and reward systems can create barriers to collaboration. A shared vocabulary needed to begin the conversation is often lacking. During a recent campus review of facilities at the University of Washington, the capital and space planning office called for new terms and definitions to capture the emerging forms of collaborative space in libraries.

Collaborative design requires negotiating skills, making tradeoffs, and sharing control. Collaborators learn how to cross boundaries and have a high tolerance for ambiguity. Successful collaborators get beyond the subtle barriers created by their professional roles. The persona one presents to the world can get in the way. Innovative organizations pay attention to supporting the skills and providing the latitude needed in collaborative design.

Collaboration is different from cooperation or coordination in vision and relationships, structure, authority and accountability, resources and rewards, and people.[5]

Vision and relationships. Collaboration requires the commitment of organizations and their leaders. Two or more organizations are not just mushed together, but rather a new common mission and goals are created.

Structure, responsibilities, and communication. In collaborations, a new structure and/or clearly defined and interrelated roles constitute a formal division of labor. More comprehensive planning includes joint strategies and measuring success in terms of impact on needs of those served. Many "levels" of communication are created in collaborations. A memorandum of agreement sometimes is crafted as a formal articulation of the collaboration.

Authority and accountability. Authority is determined by the collaborators to balance ownership. Leadership is dispersed, and control is shared and mutual. Risk is shared in successful collaborative design.

Resources and rewards. Resources are pooled or jointly secured for a longer-term effort that is managed by the collaborative structure. Organizations share in the results and credit. More is accomplished jointly than could have been individually. Collaborations are successful when resources are used prudently and creatively. Collaborative design ultimately magnifies available resources and reduces unit costs.

People. Successful collaborative design is based on people, but not dependent on a single personality. Collaborations require mutual respect, trust, mentoring, and humor. Sustaining the *esprit de corps* of an evolving or long-term collaboration requires that attention be paid to explaining the culture to newcomers. The largest investment will not be in the facility, which will wear out, or in furniture and equipment, which will be replaced, but in people, who bring the space to life.

In the end, collaborative design enriches the user experience by creating library spaces that work. Collaborative design enlarges research and learning opportunities for both faculty and students. Collaborative design has a better chance of addressing the needs of diverse communities than less collaborative approaches. Collaborative design can solve pressing problems within constrained resources, not the least of which is space.

Many who have engaged in successful collaborative design will tell you that collaboration is its own reward. The process is difficult but exhilarating. Some would say that there is a basic human urge to explore and discover, to engender new relationships, and create wonderful new space. Members of successful collaborative design teams say they would have done the work for nothing. The payoff is not money, or even glory. The reward is the creative process itself. People want to do good work, to do work worth doing, and to create space that addresses real needs. Given a problem that the whole organization needs solved and a chance to do it well, individuals engaged in collaborative design will work tirelessly for no more reward than the one they give themselves.

This article is based on a paper delivered at the ARL/OCLC Strategic Issues Forum, Las Vegas, Nevada, 17 February 2002.

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[1] Jeremy J. Shapiro and Shelley K. Hughes, " Information Technology as a Liberal Art," *Educom Review* (March/April 1996): 31–35.

[2] Eugene S. Ferguson, *Engineering and the Mind's Eye* (Cambridge, Mass.: MIT Press, 1992): 32.

[3] As described by James Duderstadt, then President of the University of Michigan, in the University of Michigan *University Record* (7 December 1992): 7.

[4] Cynthia Fugate, "Only Connect: The Collocation of the University of Washington, Bothell and the Cascadia Community College," *C&RL News* (January 2001): 9–10.

[5] For further discussion on lessons learned, see Paul Mattessich, *Collaboration—What Makes it Work: A Review of Research Literature on Factors Influencing Successful Collaboration* (St. Paul, Minn.: Amherst H. Wilder Foundation, 1992) and Murray Shepard, Virginia Gillham, and Michael Ridley, "The Truth is in the Details: Lessons in Inter-university Library Collaboration," *Library Management* (1999): 332–37.

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UNIVERSITY OF TENNESSEE'S COLLABORATIVE DIGITAL MEDIA SPACES

by Barbara I. Dewey, Dean of Libraries, University of Tennessee

How can we provide access to several hundred songs to 1,300 students who enroll annually in the History of Rock course? This was the initial question to be answered by the University of Tennessee (UT). The answer ended up to be two workable models and accompanying collaborative spaces for production and creation of digital media content for the campus—the Digital Media Service and the Studio. Formulating the answer required close partnerships between the library, the Office of Information Technology, and faculty from across the campus.

As early as 1999, UT librarians and technologists began collaborating on pilot projects to evaluate both the feasibility and suitability of delivering multimedia content in the form of course reserves over the Internet.[1] As with all large research universities, the ability to scale efforts to high-enrollment classes was essential. Fortunately several realities were in place to ensure progress:

- A track record existed among technologists, librarians, and faculty in digitizing print and audio in partnership.
- UT had increased its emphasis on distance learning and learning technologies.
- A critical mass of faculty was interested and ready to deploy multimedia images in their courses.
- An emphasis on digital initiatives was in place at the University of Tennessee Libraries.
- Physical space was available in Hodges Library, UT's main library facility.

During the academic year 2000–01, plans were made and executed for two centers, each with a complementary mission. The Digital Media Service is a production facility and the Studio is a creation facility. Both centers opened to the public in 2001.

Digital Media Service: A Production Model

The Digital Media Service (DMS) <http://www.digitalmedia.utk.edu/> came out of an interdisciplinary working group appointed by the UT Office of Research and Information Technology and the Libraries. Its primary goal is to digitize and store instructional materials for faculty from all Colleges, with the ability to convert a variety of formats into digital media. Faculty are referred to appropriate staff for copy permission, instructional technology needs (Web page development and training), and identification of course-appropriate resource materials from the library and elsewhere. The service is available at no cost to faculty and instructors. Digital production is also available for non-instructional applications for a fee.

The DMS is a true partnership between the Libraries and the Office of Research and Information Technology (ORIT), reporting jointly to the respective heads of both entities. It is funded and staffed by ORIT with a library point person and a jointly populated steering committee providing day-to-day operational guidance. Staffing consists of a DMS coordinator, a digitization specialist, and student assistants. The permanent staff are supervised by the university's Customer Technology Support group. The decision to locate the facility in Hodges Library (UT's main library) was based on the availability of: prime space that provides high visibility for the multimedia center, easy access to scholarly resources for digitizing, and content and production experts to support learning.

A larger interdisciplinary advisory committee with faculty users from a variety of disciplines has been formed to provide strategic direction for the DMS. The advisory committee includes representatives from the School of Information Sciences, College of Communication, the School of Broadcasting, early faculty adopters, and the various IT groups on campus.

DMS is seen as *the* central campus facility for course-related digital production. Scaling production at the large UT-Knoxville campus (26,000 students) is now possible.

The creation of the DMS followed an ambitious timeline:

May 2000	Working group established
August 2000	Initial report delivered to new Dean of Libraries and Vice President for Research and Information Technology
September 2000	Decision made to locate DMS facility in Hodges Library
November 2000	Final report delivered with three-year budget
May 2001	Memo of understanding signed
June 2001	DMS opened, digitizing specialist hired
August 2001	Coordinator hired
November 2001	Grand opening

Completing a mutually agreeable memorandum of understanding was an important aspect of the collaborative process. The document laid out the governance structure including partners' responsibilities. Service and other baseline requirements were outlined. Compatibility issues such as appropriate hours of operation, style of furnishings, and signage were documented. Another important aspect of the agreement was to put in place a pilot phase and evaluation period.

The DMS has successfully converted materials for two semesters of selected courses at the UT, including audio materials in the most common formats (CD, DAT, cassette, uncompressed digital audio) to Real or QuickTime formats; video materials in the most common formats (VHS, uncompressed digital video) to Real, QuickTime, or MPEG2; images (photographs, slides, transparencies, stills from video) to the most common digital formats (JPEG, TIFF); text (bound or unbound sheets) to Adobe Acrobat Portable Document Format (PDF). The DMS provides streaming audio and video on-demand at single or multiple bit rates, using Real or QuickTime. DMS also provides centralized storage of all digitized materials and has the capability of CD and DVD creation and replication.

How successful is DMS thus far? Faculty from 17 departments have used its services in the first year and consider it indispensable. Since DMS is a centralized service, it alleviates the need for duplication of equipment and staff expertise around the campus.

The Studio: A Creative Space

At about the same time the DMS was being created, another initiative was in the works. When Hodges Library opened in 1988, the Audiovisual (AV) Department was a state-of-the-art facility deploying film and video to individual carrels as well as to a number of viewing rooms located throughout the library. This capability enabled faculty from all over campus to show films and videos to classes and enabled students individually to study materials in viewing carrels. Audio carrels were also built in the unit but are no longer needed. While the group viewing rooms and traditional services of centralized AV deployment are still required, the campus community expressed a growing unmet need for digital multimedia collections as well as the ability to create new products from a combination of digital, print, and other sources for class assignments or as innovative forms of scholarly publication. The Studio emerged as a serendipitous way to repurpose existing library space with a new kind of service.

Much like an art or music studio, the Studio can be used by faculty and students for digitizing and bringing together content in the new multimedia environment. The Studio is a place where students and faculty directly shape their digital creations (see <http://www.lib.utk.edu/mediacenter/exhibit.html> for virtual exhibits). An expert staff is available to assist and teach. However, the Studio is a "self-production" facility rather than a drop-off production facility like the DMS. Features include:

- Multimedia computers, scanners, and high-end software for use by students or faculty using text, images, video, audio, and/or a combination of these formats
- Access to multimedia instructional programs
- Group areas for multimedia production
- Group and individual instruction for users
- Technical support

Two major new services are also planned, including collecting and archiving images for use in academic departments such as art, classics, anthropology, history, agriculture, etc. A number of commercial digital archives are being considered for purchase and selected locally held collections are slated for digitization. An enhanced electronic-text capability is also desired where e-text literary collections will be increased, and encoding capability and training added for students and faculty wishing to do text analysis.

The implementation of these capabilities will truly enable students and faculty to use the facility as a multimedia studio to, not only view and manipulate digital multimedia resources, but also to create multimedia "products," scholarly resources, and assignments. The facility is seen as a central studio supplementing specialized computer labs located in the Colleges, which are restricted in their use and do not always feature on-site assistance. As with the DMS, the Studio is a collaborative effort drawing on expertise found throughout the campus to help plan the facility, build the collections, conduct training, and identify priority services, opportunistically located in the library.

Summary

Implementation of the Digital Media Service and the Studio provides the University of Tennessee with a much greater capacity to create and deploy digital multimedia resources. Students and faculty are now able to integrate these resources into their teaching, learning, research, and creative output. Redundant and expensive services scattered throughout the campus will not be necessary. Remaining issues include greater marketing of the new services, staff training, refreshing equipment and software, upgrading reallocated space, and additional relationship building to continue the collaborations at a high level.

This article is based on a paper delivered at the ARL/OCLC Strategic Issues Forum, Las Vegas, Nevada, 17 February 2002.

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[1] Pauline S. Bayne and Chris Hodge, "Digital Audio Reserves: A Collaborative Project at the University of Tennessee," *Journal of Interlibrary Loan, Document Delivery & Information Supply* vol. 11, no. 4 (2001): 25–36.

CNI AND DARTMOUTH LAUNCH COLLABORATIVE FACILITIES WEB SITE

by Joan Lippincott, Associate Executive Director, Coalition for Networked Information

The Coalition for Networked Information (CNI) and Dartmouth College recently announced the availability of a new Web site, "Collaborative Facilities," designed to collect, organize, and disseminate information about model "collaborative facilities" on college and university campuses. The project is sponsored by CNI and hosted by Dartmouth in an effort to assist institutions in planning, implementing, and evaluating these facilities.

One element of CNI's mission is to promote collaboration between information technologists, librarians, and other groups since so many aspects of the use of technology in higher education benefit from the contributions of the skills and perspectives of a variety of professionals. Collaborations take place in many ways, and this project highlights successful collaborations that are rooted in new or renovated space, which helps to integrate services for users and provides an updated physical environment for technology-related services.

What is a Collaborative Facility?

Collaborative facilities integrate the services of information technologists, librarians, instructional technologists, multimedia producers, and many others to serve a wide range of faculty and student needs. The organization and functions of these facilities vary widely, but all include a distinct physical space, participation by at least two separate campus units, and staff members dedicated to collaborative work. Collaborative facilities include "information commons," which provide information and reference services and networked information resources to students and faculty. Some campus centers for teaching and learning that assist faculty in integrating new technologies into the curriculum are operated as collaborative facilities. Multimedia production and service facilities are another type of facility that some universities are developing as a joint project of more than one campus unit.

The Web Site

The Web site allows information professionals, administrators, faculty, and other interested visitors to browse a range of collaborative facilities online and to analyze documents related to their planning, design, administration, staffing, services, and funding. The site also provides contact information for each participating institution. The site is intended to serve the interests of those institutions that are planning renovations or new buildings and want to consider some element of collaboration related to technology resources and services. Bringing together the materials from a variety of institutions into one Web site should facilitate the information-gathering part of the facility planning process.

A wide range of materials are solicited from each institution, including planning documents, designs of physical space, reports of technology design and costs, descriptions of services, administration and staffing documents such as organizational charts and job descriptions, financial information, and marketing plans and materials.

Early Participants

At the launch of the site, information from the facilities of three universities was available in order to provide models for other submissions. They include Dartmouth College, Baker-Berry Library; Oregon State University Information Commons; and University of Tennessee, Knoxville, "The Studio" and Digital Media Service.

CNI has hosted presentations on collaborative facilities at its Task Force Meetings for the past two years. Dartmouth College presented information on the joint service areas in its renovated Baker-Berry Library, Oregon State University described its Information Commons, Northwestern University featured its hybrid center called 2East, University of Tennessee explained the rationale and services of its Studio and its Digital Media Service, University of Arizona presented its Integrated Learning Center, and Vassar College reported on its Media Cloisters. Additional presentations from collaborative facilities are planned for upcoming CNI Task Force Meetings.

Submissions

The site opened with materials from some representative examples of collaborative facilities, and now CNI and Dartmouth are seeking wide input of projects. All higher education institutions are invited to submit materials on their collaborative facilities for inclusion in the Web site. The materials will be reviewed to determine that they meet the primary criteria of the Collaborative Facilities project:

- Facilities must be physical spaces.
- Facilities must involve more than one unit of the institution, e.g., computing center, library, teaching faculty, instructional technology group, etc.
- Facilities must involve the use of information technology.

An advisory group including Malcolm Brown of Dartmouth College, Barbara Dewey of University of Tennessee, Chuck Henry of Rice University, Michael Neuman of Georgetown University, Catherine Murray-Rust of Oregon State University, and Joan Lippincott of CNI, developed the plan for the Web site. Susan Simon of Dartmouth provided the site design.

The Web site, which includes a submissions form, is available at <http://www.dartmouth.edu/~collab/>.

PORTAL FUNCTIONALITY PROVIDED BY ARL LIBRARIES: RESULTS OF AN ARL SURVEY

by Karen A. Wetzel, ARL Program Officer for Distance Learning, and Mary E. Jackson, ARL Senior Program Officer for Access Services

The number of resources that research libraries offer to users has grown at a steady rate over the last decade. Not only have these resources become more varied in nature and format, but the extent to which they may be accessed online has expanded rapidly, as well. One of the strategies taken to integrate this range of resources has been library development of Web pages and portals to help guide the user to these varied resources.

In February 2002, ARL surveyed its member libraries to identify the state of current or planned research library applications of portals that have certain characteristics or functions. Recognizing that there are many definitions and views of library portals, the ARL survey sought responses from libraries that offered portals that include (1) search engine tools that offer the user the capability to search across multiple sources and integrate the results of those searches, and (2) at least one kind of supporting service for the user (such as requesting retrieval or delivery of non-digital material, online reference help, etc.).

Libraries with Portals

A total of 77 ARL member libraries responded to the survey, with 19 indicating that they offer a portal. Preliminary analysis of the responses suggests that only six institutions offer a portal that includes both integrated searching and at least one supporting service. A detailed examination of the 19 positive responses suggests that, although not all of the 19 completely conform to the definition suggested by the survey, 16 of these 19 were close enough to the definition to be included in the final analysis. The three responses not included in this analysis were from libraries that described their portal as a Blackboard course management system, an image collection, or the library's Web site with none of the characteristics of a portal defined by the survey. These three were included in the 61 responses that did not offer a portal.

Length of Use and Products Used

Eight of the 16 libraries (50%) have had their portals in production use for more than one year, and four libraries (25%) have brought up their portal within three months of the survey. Thirteen of the 16 (81.3%) developed their portals locally, suggesting that many libraries may be expanding existing Web sites rather than introducing a completely new portal. One library stated that their portal developed as their Web site became increasingly database-driven. For the three libraries that developed their portals using a commercial product, the products cited are EnCompass, MetaLib, and Texis/Webscript. Five of the 16 (31.3%) developed their portals in conjunction with another department, library, company, or consortium.

Target Population

Most library portals (75%) are aimed at the general university community. Only four libraries have more limited audiences. One library aims their portal at students, with faculty as the next target group; the second cited graduate students and faculty; the third cited scientific researchers; and the fourth cited "public staff."

Reasons for Developing Portals

The impetus to develop a portal varied. One library indicated that they wanted their users to have "one-stop shopping to provide better integration with other database-driven information resources." Another cited the need to provide for more effective navigation of complex, multiple, disparate collections. Yet another wanted to offer users as many services over the Web as they did in their library buildings. Other reasons given include: user needs; a user-service orientation; centralized access to services and materials; the provision of a primary point of access for students and faculty to customize their Web environment; the desire to provide reliable, objective, well-ordered access to scholarly and educational Internet resources; the ability for users to customize their research tools; and managing and providing more efficient access to e-resources.

Portal Functionality and Features

Thirteen of the 16 libraries (81.3%) have portals that are capable of setting search limits, such as date of publication. Ten portals (62.5%) sort results, seven portals (43.8%) can eliminate duplicate search results, one permits cluster searching, one offers reference linking, and one offers subject browsing. Only two libraries are planning to offer the ability to de-dupe search results, one library is planning to offer search limits, and another is planning to sort results.

A wide variety of materials are available via research library portals. All 16 libraries offer local and remote content. Of these 16, at least half provide access to the following resources: e-books, the local online catalog, licensed resources, e-journals, research guides/finding aids, special collection materials, freely available Web resources, locally digitized materials, other libraries' online catalogs, e-reserves, and learning objects. Of the 16 libraries, only a single library reports a portal that provides access to virtual reference, request forms for library services, Web search engines, a bibliographic database finding tool, services information, or a Web-based citation manager utility.

TABLE 1. PORTAL SERVICES OFFERED BY RESPONDING ARL LIBRARIES

Service or Application	Number	Percentage
Submitting online reference questions	15	93.8%
Submitting ILL requests	13	81.3%
Requesting retrieval of local material to be held for user at a library service point	11	68.8%
Accessing remote, fee-based service, such as Ingenta or Ei Village	10	62.5%
Requesting retrieval of local material to be delivered to user	8	50.0%
Requesting a photocopy to be made and delivered to user	8	50.0%
Accessing e-mail	3	18.8%
Accessing institutional services	3	18.8%
Accessing full-text journals and e-books	1	6.3%
Requesting photocopy and have it delivered via the Web	1	6.3%

TABLE 2. RESPONDING ARL LIBRARIES' EVALUATION OF THEIR PORTALS

1 is lowest, 9 is highest, 0 is "not applicable"

	Minimum	Desired	Current Performance
Ease of use	4.81	7.56	5.63
Usefulness	5.25	7.50	5.89
Frequency of use	3.38	7.19	5.44

Libraries use a range of processes for selecting resources to be included in the portal. Eight libraries (50%) use individual bibliographers, collection development officers, or other library staff to select resources, with several of these libraries citing committees' responsibility for editorial policy or functions included in the portal. Five libraries (31.3%) reported selection primarily by a committee or consortium.

Eight libraries (50%) offer user customization, and another five libraries (31.3%) are planning to add that feature. Seven libraries (43.8%) offer "push" features, with four libraries (25%) planning to add push features. Other key features identified include: chat reference, current awareness service, search clustering by region or type of library, linking to document delivery if the full text is not available electronically, and access to resources and services.

Services Available through the Portal

The survey also asked about the types of services or applications available through the portal. Accessing online discussion forums was the only service on the questionnaire not offered by any of the respondents. The average number of available services was seven. Table 1 details the range of services available.

Library Branding of Portals

Most libraries (75%) brand their portal by displaying their library name prominently. Ten of the 16 (62.5%) also include the library's logo, although only two include a slogan. Only one has no institutional branding, because the portal is functioning in a consortial environment. For that library, dynamic institutional branding is a future goal.

Evaluation Tools

Librarians use a variety of techniques to evaluate the effectiveness of their portals. All libraries use at least one technique or measure. Fourteen of the 16 (87.5%) use user surveys or informal feedback; 11 libraries (68.8%) use focus groups; eight libraries (50%) use interviews; seven libraries (43.8%) reported transaction tracking; and five libraries (31.3%) use portal navigability surveys.

Of the 16 that responded that they have portals, most rated the quality of their portal as higher than the minimum, but less than the desired expectation. Table 2 shows the average scores on a scale of one to nine for ease of use, usefulness, and frequency of use. Only three libraries ranked their portal lower than their minimum expectations. One ranked their library lower than the minimum in all three categories. Two libraries ranked their library lower than the minimum for usefulness.

Desired Features and Enhancements

One of the features of a portal as defined by the survey is an integrated, single-search option, but survey responses indicate that integrated searching might be only partially implemented by some libraries with portals. Six responses (37.5%) cited features that suggested a desire for an enhanced single-search feature, such as searching across diverse databases and other resources.

Four libraries (25%) indicated a desire to add additional customization features and functionality:

- Vertical portal by a community of interest.
- Navigation by subject through all resources.
- More pervasive personalization and integration into campus portal services.
- Ability to customize links to individual journal titles.

Other planned or desired enhancements to existing portals include:

- Ability to receive updates on new books and resources by customized subject.
- Convenient discovery and retrieval from disparate collections.
- Download citation lists.
- Alumni access to fee-based databases.
- More administrative functionality, such as usage statistics.
- More publicity.

Tracking Portal Applications and Implementations

Research librarians use a variety of techniques to keep current on portal integration. Staff at 13 of the libraries (81.3%) keep current by reading library or computer science literature, library research reports, or other publications. Eight libraries (50%) monitor Web sites of other research libraries or commercial firms. Staff at six libraries (37.5%) attend conferences or workshops to obtain current information, and three libraries (18.8%) monitor electronic mailing lists. Other techniques include participating in a consortium's portal task force and obtaining information from colleagues.

Libraries without Portals

Although the majority of the respondents (61 of the 77, or 79.2%) indicated that they do not currently offer a portal as defined by the survey, 32 libraries (52.5%) are in the discussion phase, eight libraries (13.1%) are in the process of creating a portal with the characteristics defined by the survey, eight libraries (13.1%) expect to have a such a portal within the next 12 months, 11 respondents (18%) are not exploring such portals at this time, and two libraries (3.3%) did not answer the question.

Conclusion

The results of this survey confirm that the definition of the word "portal," as well as the functionality included in a research library portal, is still in flux. As one librarian responded, "It is difficult to determine if the designation 'portal' is to be defined by a specific set of design conventions, toolsets, and branding, or if it is defined by the range of functions and services being offered." This individual feared that "the term 'portal' is applied because people feel they have to claim 'portal status'.... If you don't have it, maybe it becomes 'Portal Envy.'" The hard question, this individual continued, is to determine the point at which a Web site evolves into a portal.

This analysis of the first survey on portal implementations in research libraries will inform other ARL member institutions in the process of exploring and implementing portal functionality, as well as the vendor community of the status of research library portal applications and future needs.

Libraries participating in the survey that reported having portals include:

University of Alberta
Auburn University
Boston College
Brigham Young University
University of California, Los Angeles
University of California, Riverside
Case Western Reserve University
Canada Institute for Scientific and Technical Information
Cornell University
Duke University
University of Illinois at Urbana-Champaign
University of Kentucky
Université Laval
University of Oklahoma
Pennsylvania State University
Vanderbilt University

ARL SCHOLARS PORTAL WORKING GROUP FINAL REPORT

The ARL Scholars Portal Working Group was established in 2000 to advance the concept of a collective research library presence on the Web. On 1 May 2002, there was a public news release that a Scholars Portal Project was being launched by several ARL member libraries (a subset of the working group) in collaboration with ARL and Fretwell-Downing, Inc (FD). This report summarizes the work of the Scholars Portal Working Group from its inception, including the group's sense of key portal features and functionality. The report concludes with a recommendation to the ARL Board to discharge the Scholars Portal Working Group and replace it with a new ARL Working Group on Portal Applications.

Original members of the Scholars Portal Working Group are Jerry Campbell (Chair), Ken Frazier, Olivia Madison, Sarah Michalak, Sarah Pritchard, Brian Schottlaender, Carla Stoffle, and Sarah Thomas. Fred Heath, Richard Lucier, Sherrie Schmidt, Julie Wessling, Paul Willis, and Jerome Yavarkovsky joined the group in 2001 and 2002. Jaia Barrett serves as ARL staff liaison, and Mary Jackson and Rick Johnson serve as technical advisors. Throughout, the deliberations of the working group have benefited enormously from input received from various ARL colleagues, including, collectively, those on the ARL Access to Information Resources Committee.

Background

The Scholars Portal Working Group was established by ARL in 2000 to advance the concept of a collective research library presence on the Web. The concept was first identified at the 1999 ARL-OCLC Strategic Issues Forum in Keystone, Colorado. Participants at the Strategic Issues Forum agreed that libraries were in danger of losing their constituencies to commercial information services in the Web environment and that the library Web presence was not generally accepted as the entry point to the larger range of Web resources. Participants concluded that it was necessary to increase the research library presence on the Web by advancing the concept of a "library.org."

Jerry Campbell, Chief Information Officer and Dean of University Libraries, University of Southern California, advanced that idea in a white paper he prepared for discussion by the ARL membership at their May 2000 meeting. Campbell's paper asked the ARL membership to consider what role the Association should play in portal development for the scholarly community.[1] He suggested that ARL seriously pursue the feasibility of developing a "library.org" Web presence. Campbell argued for a collaborative partnership approach, and asserted that research librarians are better qualified to create a Scholars Portal than anyone else is. Campbell was the first to articulate some of the key features and functionality of such a portal. He suggested that the portal should include high-quality content, be based on standards, search across multiple and disparate databases, offer a variety of supporting tools (e.g., authoring, personalized filtering, and resource management), offer enhanced supporting services such as digital reference, and integrate electronic thesauri. Campbell asserted that this portal would be "the place to start for anyone seeking academically sound information."

The general concept of a Scholars Portal and resources to be included in it were further developed and refined in discussions at the October 2000 ARL Membership Meeting, at which then-ARL President Ken Frazier convened an open forum of approximately 45 ARL member leaders to discuss the Campbell proposal for a Scholars Portal. The discussion highlighted a range of views around the following points: the relationship of a Scholars Portal to an online integrated catalog; the role of OCLC's Cooperative Online Resource Catalog (CORC); search software; the role of a portal in supporting interactive scholarly communities; the relationship between value, quality, and traffic; audience; research on the use and effectiveness of a portal; and how to get started.

The concept of a Scholars Portal was also raised in a paper by Sarah Thomas, presented at the November 2000 Library of Congress "Bicentennial Conference on Bibliographic Control."[2] Thomas built on Campbell's thesis in her article, and was one of the first to assert that the emphasis should be on the identification of many new resources of value to the scholar and researcher, rather than on the cataloging of only a few, relatively speaking, new items. She coined a new word: "portalog."

The initiative gained real momentum with the establishment of the ARL Scholars Portal Working Group in late 2000. There were two cornerstone principles that motivated the working group in its deliberations:

- First, that access to disparate electronic resources and services can be improved through integration, both within a single institution and across multiples institutions.
- Second, that efforts to effect such integration should leverage work already being carried out in ARL libraries.

Narrowing the Focus to a "Super Discovery Tool" and Defining Requirements

In early spring 2001, the working group met and confirmed that the ultimate goal was the development of a suite of scholarly productivity tools and services but that it was essential to define an initial first step toward this ambitious goal. The initial step was defined as the development of what Brian Schottlaender termed a "super discovery tool." This tool needs to search, aggregate, integrate, and deliver licensed and openly available digital content across a broad range of subject fields and from multiple institutions. Members of the working group agreed early on that it was not desirable for ARL to develop the tool itself, but to identify potential partners (commercial and otherwise) with whom to collaborate in the tool's development.

At that time, just over one year ago, finding a way to describe in any detail what the working group meant by the concept of such a "super discovery tool" was not easy. It was approached in two ways. First, Sarah Pritchard prepared a user scenario that described the concept from the point of view of an undergraduate. This scenario went a long way toward bringing the concept to life for the working group and for others. In addition, the working group developed a list of key features, functionality, and categories of content that it felt were required or highly desirable for the "super discovery tool," as well as some other general features of a portal. That list, "Portal Features and Functionality: First Phase" (included at the end of this article as Appendix A), was used in the working group's environmental scan to identify potential partners.

The critical core features of the tool can be summarized as follows:

- First, the ability to query two distinct streams of electronic resources and databases:
    - "universal stream" of unrestricted resources (Web pages and searchable databases) from Web sites targeted for quality and academic relevance, and
    - "local stream" of information, access to which is restricted to local users by license or other agreement.
- Second, the ability to map a search against different types of metadata.

The list of "Portal Features and Functionality" was enhanced and refined during the several months of the environmental scan but has not been updated since June 2001. It is included here, however, as a record of the working group efforts that led to the launch of the Scholars Portal Project.

Scanning the Environment

In an effort to identify potential partners, the working group conducted an environmental scan that identified a wide range of companies and products described as "portals." Over 30 products were identified; some were reviewed and determined to be out of scope of the goals of the Scholars Portal because they organized internal records and/or searched only Web resources. The working group was looking for an organization or company that was ready and willing to engage in a collaborative project using extant software rather than an organization wanting to develop a product from scratch. As a result, several potential collaborators were not pursued because the working group felt that they were not in a position to work in a collaborative environment with research libraries or were demonstrating signs of being overextended in their current marketplace. Several companies and products were of sufficient interest to warrant additional research and working group contact with the company.

Developing a Project Plan and Communication Strategy

In addition to the development of the questions regarding "Portal Features and Functionality" and the completion of the environmental scan, a third activity of the working group during this period was the development of a project plan that considered options for: phases of the project, how to develop the discovery tool, financial strategies (developmental and operational), market deployment (integrating the tool into the work environment of the user), and key considerations to influence working group decisions made about the development of the project. The working group was also in the early stages of developing a communication strategy and process for integrating feedback about their work back into their planning process.

Reporting at the May 2001 ARL Membership Meeting

The working group's May 2001 report to the ARL membership included the "User Scenario for the ARL Scholars Portal" developed by Sarah Pritchard and a recommendation for the construction of a suite of Web-based services that will connect the higher education community as directly as possible with high-quality information resources that contribute to the teaching and learning process and that advance research.[3] The report emphasized that the working group's initial focus was on the "single-search" discovery tool that enables a user to search across certain limited but diverse and distributed Web sites, library catalogs, and databases of information resources to retrieve and integrate the results in a single presentation.

At the May 2001 ARL Business Meeting, Brian Schottlaender summarized the activities of the working group and identified 10 organizations and companies that might be potential partners on this project.[4] Schottlaender noted that it was not clear to the working group whether it was either necessary or desirable that the group collaborate with only one partner to the exclusion of others. He did stress that the working group needed to balance the impetus to move ahead expeditiously with the need to refine further the thinking about the "Portal Features and Functionality" for the single-search discovery tool. The working group agreed to continue to use the term "Scholars Portal" for convenience, even though the phrase raised questions. Schottlaender also emphasized that the initiative's larger objective remained the development of a full suite of scholarly productivity tools, functioning with the "single-search" discovery tool, to create a new academic platform for members of the research and higher education communities.

Identifying a Potential Partner

The working group convened by conference call on 13 July 2001 to review the results of the environmental scan, using the list of "Portal Features and Functionality" as the basis for evaluating various companies and products. Reaffirming its strong desire to implement a project in fall of 2001, the working group reviewed the strengths and weaknesses of the several products, evaluated the readiness of the various vendors to engage in a project in the fall 2001, and agreed that working with one vendor in a project was preferred over working with two or more vendors or simply calling for competition in the marketplace. The working group also briefly discussed business models and explored options for establishing an operational project. At this time, the working group considered Phase One to be the planning efforts up to the point participants implement software, and Phase Two to be the implementation of the software. From that discussion, the group submitted its recommendations to the ARL Board of Directors.

Defining the Project

At its July 2001 meeting, the ARL Board of Directors reviewed the working group's recommendations to take the following steps:

1. Discuss a "collaborative exploration" with the preferred vendor to lead to a project funded entirely by the participating libraries.
2. Begin discussions with the preferred vendor about the details of a project, including financial requirements, timeline, expectations, and requirements of the participating libraries, with the goal of beginning a project in fall 2001. (The working group had not excluded the other vendors, but wanted to hold them in abeyance until they saw how the contract discussions unfolded with the first vendor.)
3. Assuming ARL and the preferred vendor reached agreement on the details of the project, ARL would enter into a formal agreement with the preferred vendor on behalf of the participating libraries.
4. Supported by funds from participating libraries, ARL would provide staff assistance to work with the participating libraries and preferred vendor. (The working group recommended that Mary Jackson serve as part-time project manager.)
5. Before the agreement was signed, ARL, the working group, and the preferred vendor would reach agreement on the evaluation criteria to be used to judge the success of the project.
6. At the end of the project, the participating libraries would evaluate the success of the project and recommend any next steps.

The ARL Board supported the Scholars Portal Working Group recommendations and specified that neither the working group nor the vendor should describe the project as a commitment on the part of other ARL libraries to use the product nor that this particular product carried an "ARL imprimatur." The Board also asked ARL staff to continue to monitor other vendor developments and library applications of search engines and resource integration software tools and to develop a set of "best practices" of the functionality and service options in various portal implementations.

Reporting at the October 2001 ARL Membership Meeting

Jerry Campbell gave an update report at the October 2001 ARL Membership Meeting.[5] He noted that the working group had identified a vendor whose existing products offered about 80 percent of what the working group thought was needed to deploy a discovery tool that offers a critical mass, if not all, of the working group's desired features and capabilities. He also noted that the vendor was interested in collaborating with the working group to build the other 20 percent of the desired features and that they were offering to contribute some of the development time needed to do so. At that time, ARL staff had begun negotiating a contract with the vendor. Campbell extended an invitation to other ARL member libraries to join as project participants.

ARL Forum on "Collections & Access for the 21st-Century Scholar," October 2001

Brian Schottlaender gave a presentation[6] at the ARL Forum on "Collections & Access for the 21st-Century Scholar" in October 2001 on the subject of post-resource discovery portal functionality. Schottlaender reiterated to forum attendees that development of the super discovery tool was only the initial focus of the working group's attention. Their larger ambition was the development of a full suite of scholarly productivity tools and services, of which the super discovery tool will be but one feature. Schottlaender identified at least five areas of scholarly activity in which post-discovery tools would be welcome, including: capture, integration, manipulation, distribution, and consultation.

Reaching Agreement with Fretwell-Downing, Inc.

Contract negotiations were more protracted than either side expected. A press release was issued on 1 May 2002 announcing the launch of the Scholars Portal Project, a collaboration between several ARL member libraries and Fretwell-Downing, Inc. (FD).[7] Taking the advice of the ARL Board, the project participants made explicit in their arrangements with FD that ARL's collaboration with the ARL member libraries on this project is not an Association endorsement of FD products. The initial libraries participating in the project are the University of Southern California; University of California, San Diego; Dartmouth College; University of Arizona; Arizona State University; Iowa State University; and the University of Utah. Plans call for expanding the number of participating libraries over the course of the three-year project. Any ARL member library interested in joining the project is invited and encouraged to contact ARL's Mary Jackson.

Initially the Scholars Portal Project will use several FD products, including ZPORTAL, as a base to deliver cross-domain searching of licensed and openly available content in a range of subject fields and from multiple institutions. The portal will aggregate and integrate the results of the search, and support delivery of the content to the user. Future phases will add other services to the portal that improve user access to, and use of, information resources. For example, planned enhancements include integration of the searching tool within the local online learning environment for a course and linkage to a 24/7 digital reference service to consult with a reference librarian.

Discharging the Scholars Portal Working Group and Establishing a New Working Group

The project with Fretwell-Downing is not the only area that the working group has been tracking. However, because "Scholars Portal" as a label is now so closely connected to the Project, members of the working group recommend discharging the Scholars Portal Working Group and subdividing the ongoing work between two new groups. First, the Scholars Portal Working Group recommends establishing a new ARL working group that would carry on with a broad charge to monitor how libraries are integrating portal technology into their new academic platforms and to identify common issues or barriers to successful implementations. In addition, as part of the Scholars Portal Project, a Project Steering Committee has been established and includes a representative from each participating library to provide project policy oversight for the duration of the project. It is hoped that some Scholars Portal Project participants will also serve on the new working group and other libraries will join this new ARL effort to monitor activity broadly in this arena.

ARL's Ongoing Agenda Regarding Portals

The Scholars Portal Working Group expects that the Scholars Portal Project will demonstrate the viability of the Scholars Portal vision with one vendor's products. The libraries participating in the project sought and received ARL's ongoing involvement because they believe that this will spur all vendors—including but not limited to Fretwell-Downing—to work even harder to create or enhance products that serve the needs of research library communities. Even as the Scholars Portal Project is launched, other ARL members are working on similar projects with other vendors. At the same time, ARL staff continue to monitor portal software applications, will host a meeting on 14 June 2002 in Atlanta where librarians and vendors may come together to hear reports by librarians on their portal implementations, and will issue a call for vendors of portal products to establish a Developers Group. Essentially, ARL's involvement in the Scholars Portal Project and related activities is aimed to encourage multiple vendors to develop and enhance portal software tools that will serve well the constituencies of academic and research communities.

Appendix A

Portal Features and Functionality: First Phase

Developed by the ARL Scholars Portal Working Group, June 2001

This outline of features and functionality was developed to aid the ARL Scholars Portal Working Group in its environmental scan of potential portal products during the spring and early summer of 2001. Because the working group decided to focus initially on a "super discovery tool," this list reflects a bias toward features found in search tools. The list was not designed to be comprehensive, but represents the features and functionality that working group members articulated as their highest priority for a first step in a project. In spring 2001, the working group was not aware of any readily available list of portal features or functional requirements, so the working group developed this list as an aid in their understanding of existing products. The working group was and is aware that required and desirable features in a portal will evolve over time. This list represents the views of the ARL Scholars Portal Working Group as of June 2001 and has not been kept up to date.

1. General Information

- What is the name and version number of the product(s)?
- Does the company have additional portal-related products?

2. Fall 2001 Pilot

- Does the company have an existing product to test this fall?
- Is the prototype customizable?

3. Patron Authentication

- Does the product support 3M's SIP?
- Does the product support NCIP?
- Does the product support LDAP?
- Does the product support Kerberos?
- Does the product support PKI?
- Does the product provide a proprietary authentication system?
- Does the product support rights management tracking?
- Does the product provide a one-step login to remote databases?
- Does the product authorize users database by database?

4. User Interface

- Does the product have a clean design?
- Is the user interface customizable?
- Can the user personalize/refine/modify search and search results?
- Does the product include help screens?
- Does the product include an online tutorial?
- Can a participant integrate the "Scholars Portal" logo into the local Web pages?

5. Search Engine

- Does the product include a thesaurus? If so, which one(s)?
- Is the thesaurus static or dynamic?
- Can the product map the thesaurus vocabulary across different controlled vocabularies?
- Does the product include a crosswalk among different classification schemes?
- Can the search screen be personalized by database?
- Does the product search metadata of different types of resource formats, including multimedia?
- Can the vendor host content in a centralized database?
- Can the product search across distributed databases?
- Can the product be configured to limit a search to a specific content provider or database?
- Does the product provide access to the native search mode for advanced users?
- Does the product support keyword searching?
- Does the product support full-text indexing of digital text resources?
- Does the product support Open URL?
- Does the product support Open Archives Metadata Harvesting Protocol?
- Does the product handle foreign languages?
- Does the product handle non-Roman scripts?
- Does the product support Z39.50 searching?
- Does the product support HTTP searches of Web resources?
- What type of record structure does the product support?
    - MARC
    - EAD
    - Dublin Core
    - GILS
    - CIMI
    - RDF
- Can the product harvest all ".edu" sites?
- Can the product access OCLC's WorldCat?
- Can the product access RLG's Union Catalog?
- Does the product include push features regarding new resources?
- Does the product provide the ability to contribute and update resources or sources to be searched?

6. Search Results

- Does the product save searches for use in an alerting service?
- What is the default display of search results?
- Does the product have an ability to present search results in an unbiased manner?
- Does the product merge and de-dupe search results?
- Does the product identify the type of material (e.g., citation, full-text resource, Web page)?
- Does the search result display information on the source of the citation?
- Does the product present appropriate delivery options for each search result?
- Does the product identify if an item in a search result is owned locally?
- Can the product sort result sets by subject, target, etc.?
- Does the product present different views of resources: by task, subject, user group, data, service, locally owned/accessible, etc.?
- Does the product point to an appropriate copy?
- Does the product link to the full-text article if locally licensed?

7. Linkages with other Systems

- Does the product have a link to one or more ISO ILL Protocol-compliant messaging systems?
- Does the product have a link to one or more commercial document delivery suppliers?
- Does the product have a link to a 24/7 reference service?

8. Miscellaneous

- What types of usage statistics are provided?
- Is the product installed locally?
- Is the product vendor-hosted, or can it be?

9. Partnership

- Can the company access content from a participant's licensed resources?
- Can the company execute a library's existing license with a content provider?
- What are some examples of existing installations?
- What is the endurance of the company?
- What is the trust of the company as a partner?
- Does the company have corporate resources to deliver current and planned functionality?
- Can the company deliver on its promise?
- What is the role of ARL?
- How many libraries is the company willing to include in the initial phase of the project?
- How is the product branded?

10. Financial Issues

- Is the product purchased?
- Is the product licensed?
- What is the license fee?
- What is the annual maintenance fee?
- What is the cost to the project participants?
- What is the cost to a library using the product in an operational mode?
- Will the partner be compensated? If so, how?
- Will ARL and/or the participants own the product?
- Who owns the components and enhanced features developed in the partnership?

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[1] Jerry D. Campbell, "The Case for Creating a Scholars Portal to the Web: A White Paper," *ARL: A Bimonthly Report on Research Library Issues and Actions from ARL, CNI, and SPARC*, no. 211 (August 2000): 1–4, <http://www.arl.org/newsltr/211/portal.html>.

[2] Sarah Thomas, "Abundance, Attention, and Access: Of Portals and Catalogs," *ARL: A Bimonthly Report on Research Library Issues and Actions from ARL, CNI, and SPARC*, no. 212 (October 2000): 1–3, <http://www.arl.org/newsltr/212/portal.html>.

[3] "ARL Scholars Portal Working Group Report," Washington, D.C.: Association of Research Libraries, May 2001, <http://www.arl.org/access/scholarsportal/may01rept.html>.

[4] "Update to the ARL Members from the ARL Scholars Portal Working Group, ARL Business Meeting," (Presented at the ARL Membership Meeting, Washington, D.C., 24 May 2001), <http://www.arl.org/access/scholarsportal/update5_24_01.html>.

[5] "Report from the Scholars Portal Working Group, ARL Business Meeting," *Proceedings of the 139th Association of Research Libraries Membership Meeting*, Washington, D.C.: Association of Research Libraries, 18 October 2001, <http://www.arl.org/arl/proceedings/139/portal.html>.

[6] Brian E.C. Schottlaender, "The New Academic Platform: Beyond Resource Discovery," (Presented at the ARL forum on "Collections & Access for the 21st-Century Scholar: A Forum to Explore the Roles of the Research Library," Washington, D.C., 20 October 2001), <http://www.arl.org/forum/schottlaender/>.

[7] "ARL Announces…Seven ARL Libraries Launch Scholars Portal Project in Collaboration with Fretwell-Downing, Inc.," Washington, D.C.: Association of Research Libraries, 1 May 2002, <http://www.arl.org/arl/pr/scholars_portal.html>.

SCHOLARS PORTAL PROJECT LAUNCHED

On 1 May 2002, ARL announced the launch of a Scholars Portal Project, a collaboration between several ARL member libraries and Fretwell-Downing, Inc. (FD). The initial libraries participating in the project are the University of Southern California; University of California, San Diego; Dartmouth College; University of Arizona; Arizona State University; Iowa State University; and the University of Utah. Plans call for expanding the number of participating libraries over the course of the three-year project.

The goal of the Scholars Portal Project is to provide software tools for an academic community to have a single point of access on the Web. These tools will enable the user to find high-quality information resources and, to the greatest extent possible, will deliver the information and related services directly to the user's desktop.

The ARL Scholars Portal Working Group selected FD to participate in this three-year project after making an assessment of portal software tools available in the marketplace, how close the tools come to fulfilling and sustaining the Scholars Portal vision, and the readiness and experience of the companies to collaborate on advancing priority enhancements. FD develops open, standards-based solutions that are designed to integrate with one another, and with other components from third parties. As a company, FD has been active in international standards committees and has led a number of successful R&D projects, particularly in the United Kingdom.

The initial focus of the project will use FD's ZPORTAL and several related FD products as a base to deliver cross-domain searching of licensed and openly available content in a range of subject fields and from multiple institutions. The portal will aggregate and integrate search results, and support delivery of the content to the user. Future phases will add other services to the portal that improve user access to and use of information resources. For example, enhancements include integration of the searching tool within the local online learning environment for a course and linkage to a 24/7 digital reference service to consult with a reference librarian.

Background on the ARL Scholars Portal initiative and related activities is available on the ARL Web site <http://www.arl.org/access/scholarsportal/>. See also the "Scholars Portal Working Group Final Report" beginning on page 10 of this issue of the *ARL Bimonthly Report*.

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ARL CALENDAR 2002

June 24–28	Web Development with XML: Design & Applications *Charlottesville, VA*
July 18–19	Creating a Culture of Assessment Institute *Houston, TX*
July 22–23	**ARL Board Meeting** *Washington, DC*
September 19–20	Creating a Culture of Assessment Institute *Raleigh-Durham, NC*
September 24–26	Library Management Skills Institute I: The Manager *Salt Lake City, UT*
October 2–3	Facilitation Skills Institute *Washington, DC*
October 14–15	Human Resources Management Symposium *Washington, DC*
October 15–17	**ARL Board and Membership Meeting** *Washington, DC*
October 18	ARL/CNI/SPARC Forum on Institutional Repositories *Washington, DC*
November 6–8	Advanced Facilitation Skills Lab *Chicago, IL*
December 5–6	CNI Fall Task Force Meeting *San Antonio, TX*

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THE CASE FOR INSTITUTIONAL REPOSITORIES: A SPARC POSITION PAPER

by Raym Crow, SPARC Senior Consultant

Editor's Note: In July, the Scholarly Publishing and Academic Resources Coalition (SPARC) released a major position paper that examines the strategic roles institutional repositories serve for colleges and universities. What follows are excerpts from the paper (footnotes omitted) that introduce the concept and describe the essential elements of an institutional repository. The full paper is available on the SPARC Web site <http://www.arl.org/sparc/>.

Institutional repositories—digital collections capturing and preserving the intellectual output of a single or multi-university community—provide a compelling response to two strategic issues facing academic institutions. Such repositories:

- Provide a critical component in reforming the system of scholarly communication—a component that expands access to research, reasserts control over scholarship by the academy, increases competition and reduces the monopoly power of journals, and brings economic relief and heightened relevance to the institutions and libraries that support them; and
- Have the potential to serve as tangible indicators of a university's quality and to demonstrate the scientific, societal, and economic relevance of its research activities, thus increasing the institution's visibility, status, and public value.

Institutional repositories represent the logical convergence of faculty-driven self-archiving initiatives, library dissatisfaction with the monopolistic effects of the traditional and still-pervasive journal publishing system, and the availability of digital networks and publishing technologies. This convergence manifests itself in several ways:

- Attitudinally—Institutional repositories build on a growing grassroots faculty practice of posting research online, most often on personal web sites, but also on departmental sites or in disciplinary repositories.
- Economically—While the variety of institutional contexts and potential implementations make it difficult to project institutional repository development and operational costs with any precision, the evidence so far suggests that the resources required would represent but a fraction of the journal costs that libraries now incur and over which they have little control.
- Technically—Digital publishing technologies, ever-expanding global networking, and enabling interoperability protocols and metadata standards are coalescing to provide practical technical solutions that can be implemented now.

The SPARC position paper explores the impact that institutional repositories can have on evolving models of scholarly communication, their implications for current stakeholders in the process, and the potential benefit they deliver to the institutions that sponsor them. SPARC intends the paper to facilitate a practical discussion of institutional repository policy and management issues amongst operational decision makers. This discussion will necessarily engage participants from a variety of perspectives—faculty as principal contributors and stakeholders, librarians as implementers, and provosts and deans as vital administration proponents.

Rationale for Institutional Repositories

The rationale for universities and colleges implementing institutional repositories rests on two interrelated propositions: one that supports a broad, pan-institutional effort and another that offers direct and immediate benefits to each institution that implements a repository.

New Scholarly Publishing Paradigm

While institutional repositories centralize, preserve, and make accessible an institution's intellectual capital, at the same time they will form part of a global system of distributed, interoperable repositories that provides the foundation for a new disaggregated model of scholarly publishing. This model unbundles the principal functions of scholarly communication, thus presenting the potential to realize market efficiencies previously hidden by the vertically integrated publishing model that now characterizes academic journal publishing.

> *As the volume of high-quality, web-based open access research expands, the role and value of the library's journal collections will decline proportionately....*
>
> —PAGE 19 OF THE FULL PAPER

Altering the structure of the scholarly publishing model will be neither simple nor immediate. The stakes are high for all the well-entrenched participants in the system—faculty, librarians, and publishers—and the inertia of the traditional publishing paradigm is immense. In the near-term, large journal publishers have both the power and the incentive to maintain the status quo: the prestigious journals they control appear integral to the very structure of academic professional advancement. However, digital publishing and networking technologies, harnessed by an increasingly dissatisfied library market—as well as by authors themselves—are now driving fundamental changes to this publishing model at an accelerating pace. And new communications paradigms, especially when constructed by the scholars themselves, can eliminate seemingly insurmountable publisher advantages in relatively short order.

Institutional Visibility and Prestige

Institutional repositories, by capturing, preserving, and disseminating a university's collective intellectual capital, serve as meaningful indicators of an institution's academic quality. Under the current system of scholarly communication, much of the intellectual output and value of an institution's intellectual property is diffused through thousands of scholarly journals. While faculty publication in these journals reflects positively on the host university, an institutional repository concentrates the intellectual product created by a university's researchers, making it easier to demonstrate its scientific, social and financial value. Thus, institutional repositories complement existing metrics for gauging institutional productivity and prestige. Where this increased visibility reflects a high quality of scholarship, this demonstration of value can translate into tangible benefits, including the funding—from both public and private sources—that derives in part from an institution's status and reputation.

The current system of scholarly communication limits, rather than expands, the readership and availability of most scholarly research (while also obscuring its institutional origins). Rounds of journal price increases and subsequent subscription cancellations act to reduce the audience further. In this context, the role of alternative scholarly publishing models, such as institutional repositories, in breaking the monopolies of publishers and increasing the awareness of university intellectual output grows increasingly clear. Further, institutional repositories can serve this function whether they are implemented on individual campuses or in collaborative consortial projects.

Essential Elements of an Institutional Repository

Stated broadly, a digital institutional repository can be any collection of digital material hosted, owned or controlled, or disseminated by a college or university, irrespective of purpose or provenance. Here, however, we will narrow our definition to focus on a particular type of institutional repository—a digital archive of the intellectual product created by the faculty, research staff, and students of an institution and accessible to end users both within and outside of the institution, with few if any barriers to access. In other words, the content of an institutional repository is:

- Institutionally defined;
- Scholarly;
- Cumulative and perpetual; and
- Open and interoperable.

We will amplify and qualify each of this definition's elements below. However, our purpose in doing so is not to prescribe the precise requirements necessary to qualify as an institutional repository. As we will see, institutional repositories can assume many forms and serve a variety of purposes. Indeed, the technical and administrative infrastructures developed by academic institutions for existing digital library initiatives might often be modified or repurposed to serve the requirements of an institutional repository. Similarly, our more narrowly defined institutional repository might form a component of a more comprehensive institutional initiative, one encompassing virtually all of an institution's digital assets. Rather, we need to identify essential defining elements to bound a meaningful discussion of the organizational, technical, financial, and cultural issues relevant to implementing an institutional repository.

> *....early experience suggests better success when positioning the repository as a complement to, rather than as a replacement for, traditional print journals.*
>
> —PAGE 21 OF THE FULL PAPER

Institutionally Defined

In contrast to discipline-specific repositories and subject-oriented or thematic digital libraries, institutional repositories capture the original research and other intellectual property generated by an institution's constituent population active in many fields. Defined in this way, institutional repositories represent an historical and tangible embodiment of the intellectual life and output of an institution. And, to the extent that institutional affiliation itself serves as the primary qualitative filter, this repository becomes a significant indicator of the institution's academic quality.

Depending on the university, an institutional repository may complement or compete with the role served by the university archives. University archives often serve two purposes: 1) to manage administrative records to satisfy legally mandated retention requirements, and 2) to preserve materials pertaining to the institution's history and to the activities and achievements of its officers, faculty, staff, students, and alumni. Compared to institutional repositories, which aim to preserve the entire intellectual output of the institution, university archivists exercise broad discretion in determining which papers and other digital objects to collect and store. Still, the potential overlap of roles of the two repository types merits consideration at institutions that support both.

Developing institutional repositories does not require that each institution act entirely on its own. For many colleges and universities, existing state or regional institutional or library consortia will provide a logical infrastructure for implementing institutional repositories via collective development. Such cooperation could deliver economies of scale and help institutions avoid the needless replication of technical systems. Indeed, consortia might well prove the fastest path to proliferating institutional repositories and attaining a critical mass of open access content.

Scholarly Content

Depending on the goals established by each institution, an institutional repository could contain any work product generated by the institution's students, faculty, non-faculty researchers, and staff. This material might include student electronic portfolios, classroom teaching materials, the institution's annual reports, video recordings, computer programs, data sets, photographs, and art works—virtually any digital material that the institution wishes to preserve. However, given SPARC's focus on scholarly communication and on changing the structure of the scholarly publishing model, we will define institutional repositories here—whatever else they might contain—as collecting, preserving, and disseminating scholarly content. This content may include pre-prints and other works-in-progress, peer-reviewed articles, monographs, enduring teaching materials, data sets and other ancillary research material, conference papers, electronic theses and dissertations, and gray literature.

To control and manage the accession of this content requires appropriate policies and mechanisms, including content management and document version control systems. The repository policy framework and technical infrastructure must provide institutional managers the flexibility to control who can contribute, approve, access, and update the digital content coming from a variety of institutional communities and interest groups (including academic departments, libraries, research centers and labs, and individual authors). Several of the institutional repository infrastructure systems currently being developed have the technical capacity to embargo or sequester access to submissions until the content has been approved by a designated reviewer. The nature and extent of this review will reflect the policies and needs of each individual institution, possibly of each participating institutional community. As noted above, sometimes this review will simply validate the author's institutional affiliation and/or authorization to post materials in the repository.

Cumulative and Perpetual

Essential to the institutional repository's role both within the university and within the larger structure of scholarly communication is that the content collected is both cumulative and maintained in perpetuity. This has two implications.

First, whatever the content submission criteria for a repository, items once submitted cannot be withdrawn—except in presumably rare cases involving allegations of libel, plagiarism, copyright infringement, or "bad science." This removal would be the functional equivalent of revoking the registration initially granted to the contribution on accession into the repository. This does not necessarily mean that all content will be universally accessible in perpetuity. Institutions must develop criteria and policies—and implement rights management systems—for allowing access to a repository's content, both inside the institution and from outside, that balance the goal of the broadest available access with the reality of encouraging faculty participation. The cumulative nature of institutional repositories also implies that the repository's infrastructure is scaleable. While initial processing and storage requirements might prove modest, institutional repository systems must be able to accommodate thousands of submissions per year, and eventually must be able to preserve millions of digital objects and many terabytes of data.

Second, institutional repositories aim to preserve and make accessible digital content on a long-term basis. Digital preservation and long-term access are inextricably linked: each being largely meaningless without the other. Providing long-term access to digital objects in the repository requires considerable planning and resource commitments. The institution needs to balance the desire to accept the farrago of file formats popular with various disciplines, in order to simplify content submission and encourage faculty participation, with the complications that migrating some of those formats or media might present as new standards evolve. While it is possible for an institution to dictate digital formatting standards for students—in the submission of electronic theses and dissertations, for example—prescribing such formats for faculty, for both attitudinal and practical reasons, proves far more problematic.

Interoperability and Open Access

Providing no- or low-barrier access to the intellectual product generated by the institution increases awareness of research contributions. The goals motivating an institution to create and maintain a digital repository—whether pan-institutional, as a component in the changing structure of scholarly communication, or institution-centric—require that users beyond the institution's community gain access to the content.

For the repository to provide access to the broader research community, users outside the university must be able to find and retrieve information from the repository. Therefore, institutional repository systems must be able to support interoperability in order to provide access via multiple search engines and other discovery tools. An institution does not necessarily need to implement searching and indexing functionality to satisfy this demand: it could simply maintain and expose metadata, allowing other services to harvest and search the content. This simplicity lowers the barrier to repository operation for many institutions, as it only requires a file system to hold the content and the ability to create and share metadata with external systems.

Given the disparate publishing practices amongst academic disciplines, an institution's content accession and access policies need to accommodate legitimate researcher concerns about access to pre-publication material deposited in the repository. Institutional repositories typically do not permit content to be removed once submitted. However, a variety of legitimate circumstances might require an institution to limit access to particular content to a specific set of users. These circumstances might include copyright restrictions, policies established by a particular research community (limiting access to departmental working papers to members of that department, for example), embargoes that an institution's Sponsored Programs Office might require to keep the institution in compliance with the terms of sponsor contracts, and even monetary access fees for certain data. Implementing these policy-based restrictions requires robust access and rights management mechanisms to allow or restrict access to content—and, conceivably, to parts of digital objects—by a variety of criteria, including user type, institutional affiliation, user community, and others.

Conclusion

Institutional repositories offer a strategic response to systemic problems in the existing scholarly journal system—and the response can be applied immediately, reaping both short-term and on-going benefits for universities and their faculty and advancing the transformation of scholarly communication over the long term. Perhaps most importantly, they provide the academy with a powerful means with which to address the manifest problems of the current journal publishing system, without depending on journal publishers to effect fundamental changes they perceive as being inimical to their own interests.

To view the full SPARC position paper, please see <http://www.arl.org/sparc/>.

PARTNERING FOR IMPROVED ACCESS TO AGRICULTURAL INFORMATION: THE AGRICULTURE NETWORK INFORMATION CENTER (AGNIC) INITIATIVE

by Melanie Gardner, National Agricultural Library; Jean Gilbertson, University of Wisconsin; Barbara Hutchinson, University of Arizona; Tim Lynch, Cornell University; Janet McCue, Cornell University; and Amy Paster, Pennsylvania State University

Introduction

The AgNIC (Agriculture Network Information Center) Alliance was formed in 1995 by a group of five ARL member libraries committed to a partnership for providing Internet access to authoritative agricultural information. Seven years later, this vision continues to sustain the Alliance, largely due to its collaborative nature. Libraries and U.S. Department of Agriculture (USDA) Cooperative Extension services affiliated with land-grant colleges—as well as other interested institutions (such as the American Farmland Trust[1] and the Agricultural Information and Documentation System for America[2] based in Costa Rica)—are working together with the National Agricultural Library (NAL) to develop the AgNIC Alliance, its collections and services, and the technologies upon which it relies.

The collaboration in AgNIC is multidirectional. For example, there are partnerships between libraries and USDA Cooperative Extension programs; between libraries and academic departments within colleges; between states who unite around a common agricultural theme or subdiscipline; and between technologists and librarians who are committed to using technology to knit disparate information resources into a cohesive whole. The results of these partnerships are rich, cost-effective collections of essential information and services offered to users around the globe.

One of the strengths of AgNIC is that member participants take responsibility for small, vertical segments of agricultural information related to food, agriculture, natural resources, forestry, etc. and develop Web sites and reference services in their specific subject areas. There are now 29 fully contributing partner institutions, 11 supporting partner organizations, and 38 subject-based Web sites.[3]

Another strength of AgNIC is the collaborative community it has created. For example, Cornell's partnerships with federal and state agencies have resulted in services such as the Cornell University Geospatial Information Repository (CUGIR) and the USDA Economics and Statistics System. (See the accompanying list of collaborative AgNIC projects for many more examples of fruitful partnerships.)

These partnerships are illustrative of the types of collaboration the Kellogg Commission on the Future of State & Land-Grant Universities envisioned in their report, "Returning to Our Roots: The Engaged Institution."[4] This report challenged academic institutions "to serve both local and national needs in a more coherent and effective way."[5] The authors of the report called upon land-grant colleges and universities to become "engaged" and be more productively involved in their communities. Although the Kellogg report neglected to mention libraries, per se, the AgNIC Alliance illustrates successful partnerships between libraries, government agencies, businesses, and the nonprofit world—the very entities that the Kellogg Commission associates with the "most successful" engagement efforts.

HISTORY OF AGNIC

by Nancy L. Eaton, Dean of University Libraries, Pennsylvania State University

AgNIC was one of those early ideas for how to use the emerging Internet to share information across agricultural communities of scholars and practitioners. It was conceived in 1993 by George Strawn (Director of the Computation Center, Iowa State University, who was on leave to the National Science Foundation [NSF]), Nancy L. Eaton (Dean of Library Services, Iowa State University), and Pamela Andre (Associate Director and then Director of the National Agricultural Library), as a discipline-based alternative to Internet Network Information Centers (InterNICs). InterNICs were technology-oriented, discipline-independent service centers.

From the beginning AgNIC was envisioned as an "alliance," with a minimum of formal structure and a maximum of input by "partners" in the enterprise. Although NSF changed focus in its funding priorities as AgNIC was taking shape, it was an idea whose time had come. Thus, partners agreed to forge ahead and find other sources of support. As the design for AgNIC took shape, the intent was to involve many partners, each of whom would take one or more narrow subject areas and develop them in great depth on the Web. The goals were to make AgNIC one of the first places people would look online for agricultural information and to utilize the power of the Internet to distribute and share agricultural information worldwide. AgNIC continues to be a work in progress, but it has come a very long way toward meeting its initial goals.

Partnerships can provide lasting value to an organization and the community it serves if they are approached from the beginning as long-term commitments, both externally and internally. When the contributions of partners are woven into the mission and daily work of the library, the services and resources resulting from the collaboration can be sustained. The Kellogg report makes clear that, "embedded in the engagement ideal is a commitment to sharing and reciprocity."[6] True engagement is characterized by two-way partnerships defined by "mutual respect among the partners for what each brings to the table."

This mutual respect is embedded in the organizational structure of the AgNIC Alliance as defined by its governance documents—AgNIC is an organization of equal partners with mutual interests and goals that operates with minimal overhead and bureaucracy.[7] Led by a Secretariat appointed by NAL, the Alliance members meet yearly to approve policy, set directions for the future, and determine membership requirements. An Executive Board, selected from and reporting to the full Alliance membership, provides administrative oversight for the group. Subcommittees within the Alliance developed membership guidelines, established technology specifications, and hammered out details related to metadata requirements.

An article in the October 2001 issue of Cowboys and Indians: The Premier Magazine of the West *cites the University of Arizona's Rangeland Web site as an "excellent resource" for information on building your own ranch.*

With minimal overhead, bureaucracy, and funding, the AgNIC Alliance has achieved a remarkable string of collaborative partnerships, provided information and answers in response to millions of queries, and developed a coherent vision that continues to guide the organization. However, the limited organizational structure and insufficient financial support present challenges. Although considered an important initiative for the agricultural community, federal funding for the NAL to support AgNIC has been limited. This results in an annual scurrying for funds, often entailing legislative lobbying, grant-writing initiatives, and pursuit of foundation support.

In the first *Star Wars* movie, Han Solo reminds Luke Skywalker that "traveling through hyperspace ain't like dustin' crops, kid." This agricultural metaphor is a reminder that the "old ways" of doing the information business may no longer be the best ways. Instead, institutions need to rely on partnerships and collaboration, a compelling vision, and a strong technical foundation. This benefits all members, and their constituencies, in ways they cannot achieve on their own.

Collections and Services

Partnerships for Content Development

The multilevel collaborative model is a key feature of the AgNIC initiative. Nearly all of the participating AgNIC institutions have developed unique partnering relationships with a variety of internal and external institutions, groups, and agencies to develop content and tools for their respective Web sites.

Examples of internal institutional collaborations are many and usually involve university libraries working with departments that have expertise in the area chosen for a Web site "center of excellence," and with Cooperative Extension which has information dissemination goals similar to those of AgNIC. The NAL's Web-based Information Centers, many of which are the result of partnerships between academic institutions and government agencies, also participate in the AgNIC effort. Some collaborative models involve multiple AgNIC participants working together as partners. See the accompanying list of collaborative AgNIC projects for examples.

Ensuring Enduring Access

In addition to developing content, AgNIC also recognizes the importance of maintaining intellectual access to information resources. One of the original AgNIC goals was to "facilitate collaborative development, use, and archiving of distributed agricultural online primary resource (non-bibliographic) databases."[8] An example of this type of value-added service is the *Journal of Range Management* (*JRM*) published by the Society for Range Management (SRM). Through a memorandum of understanding between the University of Arizona and SRM, links are provided to the back issues of *JRM* via the AgNIC Rangelands Web site. To initiate the work, the Society provided the library with print volumes of the *JRM* for the years 1948–1998 (volumes 1–51). Partial funding for the project was made available from NAL.

Online Reference Services

As early as 1997, AgNIC partners agreed that a pivotal component of Alliance membership would be a

COLLABORATIVE AGNIC PROJECTS

AgNIC currently encompasses 29 fully contributing partner institutions, 11 supporting partner organizations, and 38 subject-based Web sites. Links are provided to all participating sites from the AgNIC home page <http://www.agnic.org/>.

Intra-Institutional Collaborations

University of Illinois at Urbana-Champaign
The College of Agriculture, Consumer, and Environmental Science and the University Library jointly develop the AgNIC corn and soybean Web sites.
<http://web.aces.uiuc.edu/agnic/cornnic/>
<http://web.aces.uiuc.edu/agnic/soynic/>

University of Nebraska–Lincoln
Library and Extension staff cooperatively develop a water quality site.
<http://deal.unl.edu/agnic/>

North Carolina State University
The Libraries and the Department of Entomology are collaborating to collect, organize, and provide access to quality academic, research, and practical resources on the identification, classification, nomenclature, and evolution of insects and related arthropods.
<http://www.lib.ncsu.edu/agnic/sys_entomology/>

Ohio State University
Library and Extension personnel are heavily involved in developing the site on bees and pollination.
<http://www2.oardc.ohio-state.edu/agnic/bee/>

Texas A & M University
The West Campus Library has a team of librarians working together to develop and maintain a resource on agribusiness.
<http://library.tamu.edu/wcl/agnic/>

University of Wisconsin–Madison
Steenbock Library works with faculty from the departments of Horticulture and Plant Pathology—including Extension Specialists—to bring information about the American cranberry to growers, researchers, and the general public.
<http://www.library.wisc.edu/guides/agnic/cranberry/cranhome.html>

AgNIC Members Working with Government and Other Organizations

University of Arizona
The University has cultivated partners to develop specific learning and decision-making modules for rangeland and natural resource management. This has led to collaborations with the Natural Resources Conservation Service, the U.S. Forest Service, NASA/Raytheon, the Society for Range Management, and local nonprofit groups.
<http://rangelandswest.org/az/>

Cornell University
Albert R. Mann Library—partnering with the USDA Economic Research Service, the National Agricultural Statistics Service, and the World Agricultural Outlook Board—makes available through AgNIC nearly 300 reports and datasets from USDA economic agencies through their USDA Economics and Statistics System.
<http://usda.mannlib.cornell.edu/>

Cornell also offers a portal on Soil Health Information, which involves a consortium of international partners representing non-governmental development organizations and research and educational institutions in Central America and Africa.
<http://mulch.mannlib.cornell.edu/>

Cornell University Geospatial Information Repository (CUGIR) is coordinated with the New York State GIS Clearinghouse and the National Spatial Data Infrastructure. CUGIR includes geospatial data and metadata for New York State with emphasis on natural resources and agriculture.
<http://cugir.mannlib.cornell.edu/>

National Agricultural Library
Alternative Farming Systems Information Center draws on the academic strength of the University of Maryland as well as the USDA Sustainable Agriculture Research and Education (SARE) program.
<http://nal.usda.gov/afsic/>

The NAL Food and Nutrition Information Center Web site involves collaboration with the University of Maryland's Department of Nutrition and Food Science.
<http://nal.usda.gov/fnic/>

AgNIC Members Working Together

AquaNIC
Thirteen AgNIC institutions are combining resources to develop aquaculture content and to provide responses to online reference questions through a national network of subject specialists. AquaNIC is a member of the National Sea Grant Program's Network of Aquaculture Information. It is coordinated by the Mississippi-Alabama Sea Grant Consortium and hosted by Purdue University and the University of Illinois through the Illinois-Indiana Sea Grant College Program.
<http://www.aquanic.org/>

Regional Rangelands AgNIC site
A new site is under development by librarians and Extension Specialists from 11 land-grant institutions in the western U.S. This site will augment the existing Managing Rangelands AgNIC site created by an interdisciplinary team at the University of Arizona.
<http://rangelandswest.org/>

commitment to providing online reference service, with each member institution responsible for covering questions pertaining to their chosen topics. Typically, institutional subject sites receive anywhere from one to twenty questions per week, with the great majority of these originating in North America. However, approximately 20 percent of those received to date have come from foreign countries. Answers are provided by e-mail and phone, usually by a reference librarian but also on an as-needed basis by faculty and others who are subject specialists.

The type of questions received directly from the main AgNIC home page vary and are fielded by staff at NAL. Over the past four years, the main site has received hundreds of reference questions on a variety of agricultural subjects ranging from rural sociology to entomology. Many positive comments from users demonstrate the value of this service.

The importance of this service to users led to the decision in 2001 to draw up general guidelines for delivering online reference as a formalized part of the AgNIC system. It soon became clear that achieving consensus among more than 40 partners would be a challenge. Information was gathered from the partner institutions on their reference policies and procedures. This input was used in April 2002 to create draft guidelines that address such issues as timeliness of response, scope of each service to be covered, provision for feedback from customers, and quality assurance. A final version of the guidelines will be posted on the main AgNIC Web site soon.

Diverse Funding Sources

Since its inception, AgNIC has been largely a grassroots effort with participating institutions contributing their own personnel, technical and server support, and travel funds to achieve the goals of the Alliance. This commitment and willingness to pursue a cause with very little or no financial support is due to a strong belief in the potential of AgNIC to be the premier Web resource for agriculture, food, and the environment. Having said this, it is also true that the AgNIC Alliance has pursued a variety of funding opportunities both at the national level and at the institutional level.

The initial funding for AgNIC came in the form of a one-year grant to NAL from the General Services Administration (GSA). This 1995–1996 grant provided a modest level of support for NAL to set up the technical foundation for operating AgNIC and for initiating the activities that would create its organizational structure. Financial support from NAL helped fund the implementation of a second-generation AgNIC site in 1999. While NAL has worked to support the organizational function of AgNIC within its own very tight budget, individual institutions have pursued other funding options for their own AgNIC Web sites.

The University of Nebraska–Lincoln obtained a GSA grant to develop a site on water quality and the University of Arizona was granted a USDA Cooperative State Research, Education, and Extension Service (CSREES) Agricultural Telecommunications grant to jumpstart its rangelands management site. In addition, the University of Arizona has been successful in leveraging funds from a variety of resources, particularly through Cooperative Extension, to create specialized educational and decision-making tools that have become part of the rangelands site. Mann Library at Cornell University has been active in gaining outside funds for its AgNIC efforts: an Agricultural Telecommunications Grant supported the development of the Soils Health AgNIC site and a grant from the U.S. Geological Survey is supporting the latest developments in CUGIR, the geospatial repository.

Expanding Relationships with Cooperative Extension

It is beneficial for those of us in libraries, particularly at land-grant institutions, to view Cooperative Extension as a potential partner on a much broader level than is currently the norm. Research libraries and Extension share many of the same goals and challenges: both have long histories and strong traditions within their institutions and both have worked hard to make accurate and unbiased information available to those who need it. Libraries accomplish this goal through the acquisition and organization of collections and the provision of reference services; Extension units accomplish this through their publications, educational programs, and specialized personnel on campus and around the state in county offices. In the past, both entities functioned largely as sole providers of information. However, with the 24x7 glut of free information (good and bad) on the Web and the monopolistic consolidation of commercial publishers in recent years, it is clear that the information landscape is drastically changing. We can no longer assume that people will come to libraries or Extension for information or assistance. Both the research library community and the Extension community are redefining what their roles will or must be in the future.

In March 2002, NASULGC's Extension Committee on Organization and Policy (ECOP) issued a report on "The Extension System: A Vision for the 21st Century."[9] This report suggests a vision for Extension "that considers the impact of changing demographics, advances in technology and profound social changes that confront our society." The report provides a rationale for Extension to "establish and maintain a national information technology network to develop, organize, manage and deliver Extension curricula using state-of-the-art technologies, methodologies and research." In recent months this vision has evolved further into a concept called e-Extension, a network that features goals and functionality similar to AgNIC. The exciting possibility for Extension and AgNIC to work together to allow these two networks to communicate with each other is already under discussion, aided by the chair of the AgNIC Executive Board—Randy Heatley, an Extension Specialist from Michigan State University.

Technological Infrastructure

Today's Technology

The technology behind AgNIC closely reflects the organization of the Alliance: a collection of collaborating Web sites, each of which can function independently, but capable of drawing additional utility from partner sites. The AgNIC home page provides the gateway, or single point of entry, to the system. A listing of all partner sites and their areas of specialization is just one click away from the home page. A wealth of information about AgNIC as an organization is within easy reach from the home page as well. The main resource, and primary draw for users, however, is the database of carefully chosen agricultural resources. Unlike other Web search engines that throw everything into one giant pot, the AgNIC database consists of resources that have been carefully selected and classified by AgNIC partner sites. Containing resources from their own sites as well as resources from other recognized authoritative sources, the database and its search and browse functions offer a fresh approach to efficient Web searching.

To increase the success of search results, the AgNIC Alliance adopted a standard resource description, or metadata, format. A recommendation was made, and quickly implemented, to use unqualified Dublin Core as the metadata format for the system. By using this format, it was anticipated that migrations to next-generation systems would be much easier, and virtually any AgNIC partner, librarian, Extension specialist, student, or researcher would be able to enter resource descriptions into an AgNIC database with little, if any, training. Although the Dublin Core includes 15 set fields, to make the format even easier to use within the AgNIC community, the 15 were narrowed to 5 mandatory fields, with the remaining 10 fields optional. (The required fields are URL, title, controlled subject, description, and resource type.) An additional 5 administrative fields are supplied automatically by the system and are used only internally by the software.

A key feature of the software that runs the AgNIC system is its ability to access other similar databases. Several AgNIC partners have installed this software and make available collections of information not found in the AgNIC database. Yet users who initiate a search from the AgNIC home page will retrieve this information because the software "knows" of these collections and automatically drills down into these distributed collections. Over time, the technology team expects to expand the number and variety of remote collections that can be accessed in this manner. To support this and other new functionality, the Alliance is looking to revamp the software infrastructure.

Coming Soon: AgNIC Portal

In development at the time of this writing is a next-generation AgNIC Portal that will personalize the system for every user. In its final form, the portal will:

- deliver a spectrum of services such as databases of agricultural information, an events calendar, discussion forums that link field experts and reference librarians with users, and current awareness services that track and summarize selected topics;
- aggregate partner information to a single point of entry;
- empower partners in the management of the portal; and
- provide portal services to enhance partner interconnectivity and activity.

The new portal will be based entirely on open-source software and will support standards such as the Open Archives Initiative and Dublin Core. Just as a modern cable television service offers dozens of channels of select content, the AgNIC Portal will offer end-users a complete spectrum of agricultural "channels." These services will be delivered through a "myAgNIC" interface that can be tailored by users to suit their style of work.

Web services and portal technologies bring together widely distributed and highly divergent information resources into an easily managed and customizable interface. Alliance member institutions have been creating, organizing, and providing access to local repositories of information for many years. The AgNIC Portal presents a unique opportunity to aggregate this incredible wealth of Web-based resources. AgNIC Web services will accomplish this aggregation in a convenient and standard way, allowing the Alliance to maintain control of the syndication and dissemination of their channels without adding to local administrative burdens. At the same time the AgNIC Portal will focus these resources in a single point of access for users.

Current portal technology will also be pushed in new directions to expose, in effect, the "tuning knobs" of portal services to the Alliance members. For example, a typical Web search engine often buries important search results several screens down in the list while other relatively unimportant hits are listed prominently; there is little a user can do to remedy this situation save for contacting the maintainers of the search engine with suggestions for improvements. The AgNIC Portal will fix this sort of disconnect by exploiting the real intelligence of the Alliance community through a number of mechanisms that allow members to "tweak" the behavior of the portal. From adjusting result-set ranking weights to augmenting the AgNIC ontology, Alliance members will have the means to effectively manage the AgNIC Portal.

The AgNIC Portal also will become a tool for the experts who are participating in the AgNIC Alliance. Select and dedicated "back channels," available exclusively to Alliance members, will serve to bridge members' collective expertise, thus enhancing the ability to efficiently locate, share, and exchange resources and information among their peers. As an example of how the AgNIC Portal might be exploited for member use, consider the development of a new Web site targeted at an emerging topic such as food safety. The proposal for such a site might emerge on an Alliance members-only discussion channel where a commitment is then made by several members to collaborate on the development of this new food-safety site. The portal will provide these participants with a dedicated discussion channel for this new initiative, with the option to feed members-only channel highlights back to the main discussion channel. Even more novel will be the utilization of the portal as a collaborative workspace where participants can begin to prototype and deploy the new food-safety site. In fact, technologies exist today that make such collaborative "through-the-Web" site development possible. Ultimately, the enhanced efficiency of Alliance members will translate into better service for end-users.

Conclusion

Building on the significant achievements made by the AgNIC Alliance in spite of the limited financial support received so far, participants have been moving quickly this year to develop plans for expansion of the Alliance through the incorporation of new members and content, and for the development of the more dynamic technical foundation outlined above. Drawing on the membership of both AgNIC and the U.S. Agricultural Information Network (USAIN), combined with interest from such organizations as the Riley Memorial Foundation, new efforts to solicit support for AgNIC and NAL through the legislative process have begun in earnest. To this end, a letter-writing campaign was instigated, targeting the chairs of the Senate and House agriculture-related appropriations subcommittees and other members, with direct contact made whenever possible. In addition, there are plans to pursue funding opportunities through traditional grants programs involving several granting agencies. Finally, it is hoped that this article will increase research libraries' awareness of AgNIC and that this, too, will lead to broader support for it throughout the library community.

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[1] See the American Farmland Trust's Farmland Information Web site <http://www.farmlandinfo.org/>.

[2] See the Agricultural Information and Documentation System for America Web site <http://www.sidalc.net/>.

[3] AgNIC membership requirements are available on the Web at <http://www.central.agnic.org/agnic/about/agnicMembership.html>.

[4] Kellogg Commission on the Future of State and Land-Grant Universities, *Returning to Our Roots: The Engaged Institution* (Washington, D.C.: February 1999), <http://www.nasulgc.org/Kellogg/kellogg.htm>.

[5] Kellogg Commission, 3.

[6] Kellogg Commission, 27.

[7] See the "AgNIC Alliance Governance Document," <http://www.central.agnic.org/agnic/about/>.

[8] *Agricultural Libraries Information Notes* 22 (Jan.–March 1996).

[9] Extension Committee on Organization and Policy, *The Extension System: A Vision for the 21st Century* (Washington, D.C.: February 2002), <http://www.nasulgc.org/publications/publications.asp>.

SERVICE QUALITY EVALUATION ACADEMY IS A SUCCESS

by Consuella Askew Waller, LibQUAL+™ Program Specialist

On May 31, 2002, ARL's Service Quality Evaluation Academy graduated its first class of participants at the close of an intensive five-day workshop in San Antonio, Texas. The Academy emphasizes basic concepts and skills in measurement and data analysis for library service quality evaluation. The curriculum focuses on qualitative and quantitative methods with some time spent on relevant data-analysis software, such as ATLAS.ti and SPSS. The workshop content is directed towards conducting service quality evaluations in general, with the expectation that participants will be able to experiment with methods and eventually create their own tools to enhance the cadre of new measurement tools being developed by libraries.

The Curriculum

The first three days of the workshop were devoted to quantitative methods and were led by Bruce Thompson, Professor and Distinguished Research Scholar from the Department of Educational Psychology at Texas A&M University. Participants benefited from class lectures as well as hands-on experience using SPSS software. During these three days participants were introduced to statistical terminology, rules for statistical analysis, and statistical methodologies to determine validity, reliability, and significance.

The final two days of the workshop, led by Colleen Cook, Executive Associate Dean of Texas A&M University Libraries, concentrated on qualitative research methodology. This segment of the program began with a half-day lecture on the use of qualitative methodologies. Following the lecture, participants were assigned to small groups and provided with interview transcripts, which they coded using ATLAS.ti. The groups then shared their approaches to coding the interviews. As a result of this concluding exercise, participants became familiar with ATLAS.ti and learned more about the complexities of qualitative data analysis.

As the weeklong workshop came to a close, participants were encouraged by the Academy instructors to begin thinking of—or, in some cases, to identify—assessment projects that they want to initiate at their libraries. Instructors offered their support and consultation for the participants' projects throughout the upcoming year. They recommended that participants take advantage of the network of expertise created within the class and consult with one another regarding their projects.

Participant Feedback

At the conclusion of the event, participants were asked to evaluate their experience by responding to the following two questions:

1. What did you like most about your Academy experience?
2. What could we have done to make your Academy experience better?

In the responses to these questions, three factors stood out as contributing to the participants' experience: quality of instruction, hands-on (experiential) learning, and the opportunity to network with peers. Suggestions for improvement indicated that, although participants were satisfied with the workshop content, they felt that more time would have been helpful. Several participants also commented that they would have preferred practical and relevant library examples presented throughout the instruction to illustrate the concepts that were taught. Reaction to the Academy was overwhelmingly positive—again and again participants summarized their experience in this manner:

> Overall, I would say this was a very worthwhile experience and I will be able to bring lots of what I learned to my workplace.

The ultimate goal of the Academy is to develop a critical mass of assessment skills within the library profession. In listening to our participants, it is evident that the Academy has achieved some success in this venture. As part of a continuing effort to create a culture of assessment in libraries, we hope to build on the success and feedback from this event and offer the Service Quality Evaluation Academy on a recurring basis.

MEASURING LIBRARY SERVICE QUALITY

An ARL/OLMS Online Lyceum Course
October 7–November 15, 2002

This Web-based course uses a case-study approach to cover the background and theory of measuring service quality, methods to assess and improve service, and the impact of measuring service quality on overall library value to constituencies. The course is designed for those interested in improving library service quality through a better understanding of how services are utilized, perceived, and assessed by users.

Course participants will learn:

- What measurement of service quality means
- Background and theory of measuring service quality
- Practical methods for measuring service quality
- How to apply theory and methods locally

For more information and to register, visit <http://www.arl.org/training/quality.html>.

DeEtta Jones, Director, Organizational Learning Services

ARL ANNOUNCES 2002 STIPEND RECIPIENTS FOR THE INITIATIVE TO RECRUIT A DIVERSE WORKFORCE

The Association of Research Libraries (ARL) is pleased to announce the 2002 stipend recipients for the Initiative to Recruit a Diverse Workforce. This ARL initiative awards stipends to M.L.S. students in order to attract new library professionals from underrepresented racial and ethnic groups to careers in ARL libraries. The initiative reflects the commitment of ARL member leaders to enhancing diversity in the academic and research library community and better meeting the challenges of global competition and changing demographics. Stipends are provided as extra incentive to complete library school and take advantage of the opportunity to work in an ARL library upon graduation.

For fall 2002, the initiative's advisory group selected four stipend recipients based on the strength of the applicants' educational and professional credentials, breadth of developmental experiences, and essays articulating their desire to pursue professional careers in ARL libraries.

The ARL community extends a warm welcome to our new colleagues:

Michelle Baildon
Graduate School of Library and Information Science
Simmons College
Expected graduation: June 2003

Loren Ito-Hardenbergh
School of Information Resources and Library Science
University of Arizona
Expected graduation: May 2004

Verna Riley-Broome
School of Library and Information Sciences
North Carolina Central University
Expected graduation: May 2003

Carlette Washington-Hoagland
Information and Library Science School
University of Iowa
Expected graduation: December 2003

The initiative's activities are supported by a group of self-nominated ARL libraries. These signature institutions play a major part in attracting more librarians from underrepresented groups into careers in ARL libraries. To foster a relationship between signature institutions and stipend recipients, ARL maintains a database of position openings in ARL libraries and facilitates the pairing of stipend recipients with applicable job opportunities.

LCD Program New Century Class

Front row (left to right): Gisele Ira Glover, Angela S. W. Lee, Raquel V. Cogell, Judy Tsou, Consuella Askew Waller, Ibironke O. Lawal, DeEtta Jones (faculty). *Middle row:* Kathryn Deiss (faculty), Susana Tejada, La Nina M. Clayton, Jiun-Huei Kuo, Susan A. Vega Garcia, Ellis B. Beteck, Veronda J. Pitchford, Jacqueline Johnson, Barbara Williams. *Back row:* Anita H. Grant, Vanessa D. Middleton, Camille Hazeur (faculty), José A. Aguiñaga, Sharon D. Horne Morris, Deborah Turner, Tracy Y. Allen.

ARL CONGRATULATES NEW CENTURY CLASS ON COMPLETION OF LCD PROGRAM

This summer the ARL Leadership and Career Development (LCD) Program class of 2001–2002—the New Century class—successfully completed the one-year curriculum (see photo). The LCD Program is a multifaceted professional development opportunity for librarians from underrepresented racial and ethnic groups. The Program design includes two one-week leadership development institutes, three Web-based courses, a research project, and a mentoring relationship with an ARL member leader. (See <http://www.arl.org/diversity/lcdp/lcdp01.html> for a list of this class's mentors and research projects.) Commitment to all aspects of the Program is expected, so applause is due the New Century class members for managing work, life, and Program demands.

Selection into the Program is competitive and is based on a demonstrated history of leadership and potential for increased leadership responsibility in the academic and research library community. Applications for the 2003–2004 Program will be available on the ARL Web site in fall 2002.

For more information about these programs or other ARL Diversity initiatives, please visit <http://www.arl.org/diversity/> or contact DeEtta Jones, Director, Organizational Learning Services <deetta@arl.org>.

Kaylyn Hipps, Editorial & Research Associate

ARL MAY MEMBERSHIP MEETING FOCUSES ON FUNDRAISING AND RECRUITMENT

by Judith Matz, Communications Officer

One hundred seven member institutions were represented at ARL's 140th Membership Meeting, "Building Capacities: New Strategies for Fund Raising & Recruitment," held in Santa Monica on May 22–24. The meeting was co-hosted by the University of California, Los Angeles (UCLA), and the University of Southern California (USC). Chaired by ARL President Paula Kaufman (University of Illinois at Urbana-Champaign), the meeting addressed two of the most challenging responsibilities of a research library leader: fundraising to supplement library budgets and successfully recruiting new staff.

The meeting began on May 22 with a full day of committee meetings, optional tours of the UCLA Powell Library and the USC Doheny Library, an orientation for new ARL directors, and an evening reception hosted by UCLA. The next morning, Paula Kaufman opened the session by requesting a moment of silence in memory of Sharon Hogan. Three new ARL directors were then welcomed to the ARL community: Jim Cogswell (Missouri), Don Dyal (Texas Tech), and Diane Perushek (Hawaii).

Program Session I featured Judith Nichols, a demographer and consultant to higher education and other nonprofit organizations, who spoke about the influence generational differences have on fundraising and recruitment. Dr. Nichols's talk was followed by three concurrent discussion sessions: Jerry Campbell (USC) and George Cassady on a donor's perspective; Suzanne Thorin (Indiana) and Ira Krinsky (Korn/Ferry) on strategies used by executive search firms; and Betsy Wilson (Washington) and Judith Nichols on changing demographics.

At the Federal Relations lunch, a panel of ARL directors discussed intellectual property and new initiatives in open access. Marianne Gaunt (Rutgers), Paula Kaufman (Illinois), and Jim Neal (Columbia) spoke about the importance of crafting strategies to promote ARL's vision of how intellectual property should be managed in the future.

In Program Session II, Susan Nutter (North Carolina State University) spoke about the single most critical issue facing our profession: the recruitment and retention of research librarians. This program session was followed by the ARL Business Meeting, which included a salute to two library directors on their retirement: Sterling Albrecht (Brigham Young) and Gloria Werner (UCLA). An evening reception in the Miramar Gardens was hosted by USC.

Program Session III, on May 24, featured Rory Hume, Executive Vice Chancellor, UCLA, who spoke on the fundamentals of building capacity: have a clear vision of where you're going, what you need to do to get there, and what resources you need to achieve your vision. Dr. Hume's presentation was followed by four concurrent discussion groups led by directors:

- "Nuts and Bolts of Fund Raising," Nancy Eaton (Penn State) and Shirley Baker (Washington in St. Louis)
- "Time Management for Fund Raisers," Dana Rooks (Houston)
- "Nuts and Bolts of Recruitment to Research Libraries," Cliff Haka (Michigan State)
- "Capital Campaign Approaches," Paul Willis (Kentucky) and Lance Query (Tulane)

Background papers and summaries of these discussions will appear on the ARL Web site at <http://www.arl.org/arl/proceedings/>.

UNIVERSITY OF LOUISVILLE JOINS ARL

by Judith Matz, Communications Officer

At its May meeting, the ARL membership voted to invite the University of Louisville Libraries to join as the 124th member. Located in Louisville, Kentucky, the University was first established in 1798. In 2000, it was included in the classification Doctoral/Research Extensive by the Carnegie Corporation, which is now the category required for ARL membership. University Librarian Hannelore B. Rader accepted ARL's invitation on behalf of the libraries. The University of Louisville enrolls about 14,500 undergraduates, 4,500 graduate students, and 1,800 professional school students distributed across 11 colleges and schools. More information about the University of Louisville may be found on their Web site <http://www.louisville.edu/>.

ARL PUBLISHES FUNDRAISING CASE STUDIES

In line with the theme of the May Membership Meeting, ARL is pleased to announce the publication of *Successful Fundraising: Case Studies of Academic Libraries*, edited by Meredith Butler. This guide offers well developed case studies written by experienced professionals who have embraced a variety of fundraising challenges, met with success, and are willing to share their stories with others. An extensive annotated bibliography of recent literature on library fundraising is also included.

Successful Fundraising is available for $45 plus shipping and handling; to order, see <http://www.arl.org/pubscat/pubs/fundraising/fundraising.html>.

UPCOMING ARL/OLMS SYMPOSIUM ON RECRUITMENT

As a follow-up to the discussions at the May Membership Meeting, the ARL/OLMS Human Resources Management Symposium, to be held October 14–15 in Washington, D.C., will focus on recruitment issues in academic libraries. Guest speakers will share current data on significant demographic changes and will discuss how those trends are affecting candidate pools and recruitment processes. There will also be time for information sharing among human resource professionals, which will allow participants to exchange strategies for enhancing search processes and maximizing the contributions of current staff. Registration and additional information is available at <http://www.arl.org/training/institutes/hrsym.html> or from DeEtta Jones <deetta@arl.org>.

TRANSITIONS

Brigham Young: Randy J. Olsen was named University Librarian effective September 1. He served as Deputy University Librarian since 1992 and will replace Sterling Albrecht, who announced his retirement earlier this year.

California, Riverside: Ruth M. Jackson was named University Librarian effective November 4. She will replace Interim University Librarian, Venita Jorgensen, who is also Assistant University Librarian for Public Services. Dr. Jackson is currently Dean of Libraries at Wichita State University.

Johns Hopkins: Winston Tabb was named Dean of University Libraries and Sheridan Director of the Milton Eisenhower Library effective September 1. He was previously the Associate Librarian for Library Services at the Library of Congress.

Kentucky: Mary Molinaro is Acting Dean of Libraries effective July 1.

National Agricultural Library: Peter Young was named Director on June 3. He was Chief of the Cataloging Distribution Service at the Library of Congress since 1997.

New Mexico: Camila Alire was appointed Dean of Library Services effective September 16. She succeeds Interim Dean Frances Wilkinson.

Oregon: Deborah Carver was named University Librarian effective July 1. She was Associate University Librarian for Public Services and Collections since 1994 and Interim University Librarian since 2000.

Texas: Harold Billings announced he will retire from his position of Director of General Libraries effective August 31, 2003.

Waterloo: Murray Shepherd announced his plan to retire in the summer of 2003.

ARL Staff Transitions

Susan J. Beck, Head of Public Services in the Rutgers University Paul Robeson Library, served as an ARL Visiting Program Officer for the New Measures Initiativ while on sabbatical April 10–June 30. She investigated t impact of assessment on library management decision-making processes and the degree to which assessment data has influenced change. Ms. Beck may be contacted via e-mail at <susanb@camden.rutgers.edu>.

Dan Hazen, Librarian for Latin America, Spain, and Portugal at the Harvard College Library, accepted a one year, part-time assignment effective July 1 as an ARL Visiting Program Officer with responsibility for workin with ARL leaders to shape new strategies for the AAU/ARL Global Resources Program (GRP). The GRP in transition as the grant funding that created and sustained it for nearly six years has come to an end. Dul University's Deborah Jakubs, who directed the GRP for the past six years, has returned to her full-time assignm at Duke. Mr. Hazen will manage this transition year—t costs of which are supported by contributions from nine libraries—to define the Program's future and inform ARL's efforts concerning international resources. He m be contacted via e-mail at <dchazen@fas.harvard.edu>.

Camille Hazeur resigned her position as ARL Program Of cer for Training and Diversity, effective June 30. She has decided to focus her energies on completing her Ph.D. diss tation. While a search for a new Program Officer for Traini and Diversity is underway, DeEtta Jones, ARL/OLMS Dir tor of Organizational Learning Services, is working with th ARL Diversity Committee to advance ARL's continuing co mitment to diversity as a priority issue.

SPARC Staff Transitions

Kerri Allen joined SPARC as Communications Manage on August 1. She brings to her new position a decade o marketing experience with higher education and librar publishing firms and was most recently the Manager, Marketing Communications, at OCLC in Ohio. She ma be reached by e-mail at <kerri@arl.org>.

Alison Buckholtz, SPARC Associate Enterprise Directo became a part-time employee in June while living in Ja with her husband. She is focusing on a subset of her former duties and playing a role in SPARC Europe. She may be reached via e-mail at <alison@arl.org>.

David Prosser was named Director—effective late October—of SPARC Europe, an alliance of European research libraries, library organizations and research institutions that facilitates competition in the European scientific journals marketplace and introduces advocacy initiatives tailored to the European research and library communities. He is currently Journals Commissioning Editor at Oxford University Press and brings to SPARC Europe experience in all areas of journal management, including finance, online and print production, and marketing.

Other Transitions

American Association of Law Libraries: Susan E. Fox was named Executive Director effective October 15. She is currently CEO of the Society of American Archivists.

American Library Association: Keith Michael Fiels was named Executive Director effective July 1. He was previously Director of the Massachusetts Board of Library Commissioners.

Digital Library Federation: David Seaman was named director effective July 25. Since 1992, he was Director of the Electronic Text Center of the University of Virginia Library.

H. W. Wilson Foundation: William E. Stanton was elected President of the H. W. Wilson Foundation. He served on the Board of the Foundation since 1999. He succeeds William V. Joyce, who passed away on June 1.

U.S. Government Printing Office: On August 1, President Bush nominated Bruce R. James to be the Public Printer. Mr. James was the CEO of Barclays Law Publishers until retiring in 1993.

HONORS

Harold Billings, Director of General Libraries, University of Texas at Austin, was named the 2002 winner of the Hugh C. Atkinson Memorial Award. The award recognizes an academic librarian who has made significant contributions in the area of library automation or management and has made notable improvements in library science or research. The citation notes his commitment to innovation in automation, resource sharing, and creative management.

The **Canadian National Site Licensing Project** won the 2002 Innovation Achievement Award of the Canadian Association of College and University Libraries (CACUL). The award recognizes academic libraries that, through innovation in ongoing programs/services or in a special event/project, have contributed to the advancement of academic librarianship and library development.

Michel Fournier, former Université Laval librarian, was recognized by the Canadian Association of Research Libraries (CARL) with CARL's national award for Distinguished Service to Research Librarianship. The award is presented annually to an individual at a CARL member institution who has made a substantial local, national, and/or international contribution to academic research librarianship. He received this year's award for the development of the *Répertoire des vedettes-matière*, the subject-heading index that is an indispensable French-language tool in national and international librarianship.

Jerome McGann, John Stewart Bryan University Professor at the University of Virginia, won the first Richard W. Lyman Award. The award of $25,000 is made to a humanities scholar for the innovative use of information technology.

Richard Meyer, Dean and Director of Libraries, Georgia Institute of Technology, is the Blackwell's Scholarship Award winner for his article, "A Tool to Assess Journal Price Discrimination," *College and Research Libraries* 62 (May 2001): 269–288. The award—a citation and $2,000 scholarship to the library school of the winner's choice—is given to the author(s) of an outstanding monograph, published article, or original paper on acquisitions, collection development, or related areas of resource development. Mr. Meyer has designated that the scholarship should be awarded to the University of Illinois Graduate School of Library and Information Science.

Carla Stoffle, Dean of Libraries, University of Arizona, received the 2002 Elizabeth Futas Catalyst for Change Award at the American Library Association (ALA) Annual Conference in June. The $1,000 citation and award recognizes a librarian who invests time and talent to make a positive change in the profession of librarianship.

James F. Williams II, Dean of Libraries, University of Colorado at Boulder, is the 2002 recipient of the ALA Melvil Dewey Medal, which recognizes distinguished service to the profession of librarianship. The citation and medal are given to an individual or group for recent creative professional achievement in library management, training, cataloging and classification, and the tools and techniques of librarianship.

SHARON HOGAN 1945–2002

Sharon Hogan, University Librarian at the University of Illinois at Chicago (UIC), and a national leader in the transformation of libraries into information retrieval systems, died April 27 following a brief illness. She was a champion of copyright, free speech, privacy, and other legislative issues affecting libraries and information systems. Ms. Hogan received top national honors in 2000 when she was named Academic Research Librarian of the Year by the Association of College and Research Libraries (ACRL). She co-authored one of the landmark books in bibliographic instruction, "Learning the Library," and was one of the founding members of the ACRL Bibliographic Instruction Section.

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ARL CALENDAR 2002

September 23– October 11	Assessment for Advancing Diversity in Libraries *ARL/OLMS Online Lyceum*
September 27–28	New Ways of Listening to Library Users: Tools for Measuring Service Quality *Washington, DC*
October 2–4	Facilitation Skills Institute *Washington, DC*
October 7– November 15	Measuring Library Service Quality *ARL/OLMS Online Lyceum*
October 14–15	Human Resources Management Symposium *Washington, DC*
October 15–17	**ARL Board and Membership Meeting** *Washington, DC*
October 16– November 8	Coaching for Performance *ARL/OLMS Online Lyceum*
October 18	ARL-SPARC-CNI Workshop on Institutional Repositories *Washington, DC*
October 21– November 22	Licensing Review and Negotiation *ARL/OLMS Online Lyceum*
November 6–8	Advanced Facilitation Skills Lab *Chicago, IL*
November 11–22	Power Dynamics & Influencing Skills *ARL/OLMS Online Lyceum*
December 2–20	Accessible Web Design: *ARL/OLMS Online Lyceum*
December 2–20	Library Conflict Management *ARL/OLMS Online Lyceum*
December 5–6	CNI Fall Task Force Meeting *San Antonio, TX*
December 11	Safeguarding Our Patrons' Privacy: What Every Librarian Needs to Know about the USA PATRIOT Act & Related Anti-Terrorism Measures *Teleconference Noon–3 p.m. EST*

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YES OR NO?

by R. Peter Milroy, Director, University of British Columbia Press

The following is from the Association of American University Presses (AAUP) presidential address delivered at the AAUP Annual Meeting in St. Petersburg, Florida, on June 29, 2002.[1]

"yes I said yes I will Yes."

That triumphal YES is, of course, the climax of Molly Bloom's soliloquy and the finale of James Joyce's *Ulysses*. For those of you who remember, that's also the answer to the subtle little literary quiz that Bill Sisler [Director, Harvard University Press] left us with at the end of his presidential address last year. He exhorted us to use it as our mantra.

I have thought about Molly Bloom's words more than a few times this past year when it has seemed that a resounding NO was more the order of things.

In case anyone has failed to figure it out yet, I am Canadian. My country's intellectual sport for the past hundred and thirty-five years has been the search for a national identity—all we have been able to agree on is that we are not American. As you can see, we are polite. We don't carp that the inhabitants of the middle bit of the continent have taken the name "American" even though Canada covers by far the largest landmass in the Americas.

The horror of the events of September 11 was gut-wrenching, unimaginable, unspeakable. Like everyone in this room, the exact time and place that I first saw those images is etched on my brain forever.

I was at my family's summer place in eastern Ontario.

It has been my sanctuary since childhood.

It was a little after nine o'clock on a perfect morning with a clear sky. The lake was sparkling and perfectly cooling as my wife and I swam in the bay. As I climbed out of the water I said, "You know, I have never felt better in my life. I wish we could just stay here." The phone rang and I ran to get it; my brother's voice said "Turn on the TV."

Some people in this room were in New York or Washington that day. I can't imagine what they experienced. The rest of us shared in that terrible television voyeurism—watching, then looking away because it was too awful to contemplate, leaving the room and being drawn back again. I feel differently about the world as a result of what I watched and heard that day. I find myself asking not "why did that event matter so much?", but "what is wrong with me that all the other conflict and death that has gone on in the world on a colossal scale in the last decade has meant so little to me?"

Your country—with mine trundling along obediently behind—is in an undeclared state of war with an array of undefined targets. It is a time when those of us who publish have to contemplate the inevitable conflict between those unhappy bedfellows, "truth" and "war."

I have had a long and intimate relationship with the United States. Like the majority of Canadians I live less than 50 miles from the U.S. border. Three of my father's four brothers were Americans and the highlight of my childhood summers was a trip across the border to visit my prosperous relatives and to shop. As a child I could watch three U.S. television stations but only one Canadian channel. I think it is safe to say that I know your country better than you know mine.

I probably know it better than I really want to because living beside the U.S. is like trying to carry on a conversation in a small room with a television turned on—no matter how hard you try--you can't entirely ignore it. Living next door to the most powerful entity in the history of the world is a bit awkward. We have a free trade treaty but whenever someone sneezes in Georgia it has an impact on a resource community in British Columbia. The universal health-care system that two generations of Canadians have struggled to develop—the centrepiece of a caring society—was kept off the free trade table along with cultural industries when we negotiated that agreement a decade ago. But universal public health care seems destined to collapse under attack by supply-side economists and free traders who believe that Canada has to become more like the U.S. in order to be competitive. Canadian cultural industries—books, magazines, film, television, and music—account for a minuscule market share in their own country and without public policy interventions will have only a fraction of that, if they can exist at all. U.S. trade negotiators made it clear in the last round of WTO negotiations that they considered any exemption for cultural industries an affront to American interests.

> *American university presses give me great hope. You too are dissenters, dissenters against the mainstream forces that are so inexorably dumbing down public discourse.*

I am almost as distrustful of nationalism as I am of religious fundamentalism, but like most Canadian publishers, I describe myself as a cultural nationalist. Is there a contradiction in my being here? No. I have always felt comfortable in this very civilized company. I feel less comfortable about the role of the American State.

The momentum of American ambition is awesome; the power of American anger is a terrible thing. America lives with one set of illusions about itself, but the rest of the world notes cautiously that the only nation that has used an atomic weapon has never repudiated its first strike policy. For an outsider, the semiotics of your nationalism can be as discomforting as any other demonstration of fundamentalism. Looking in from the outside, we are anxious to find signs that someone is asking a few questions.

Many of my heroes are Americans. At 55, I find myself thinking back to my teens and early 20s. I think about the dissenters—those who challenged institutionalized racism or refused to have their ethics and identities submerged by the tidal surge of a nation marching to profit or war. King, Chavez, Malcolm X, Angela Davis, the Chicago Seven, Ralph Nader. On a more personal scale, other Americans were my heroes, too—kids my age who resisted the Vietnam War by exiling themselves and becoming part of my community and my circle of friends. Some of their reputations have been tarnished severely 40 years on; it is hard to live up to the brave moments of youth. As I get older, I find myself being more forgiving.

American dissenters gave me hope then—and they continue to do so.

Only Americans can change U.S. public policy; only Americans can police the world's policeman.

American university presses give me great hope.

You too are dissenters, dissenters against the mainstream forces that are so inexorably dumbing down public discourse. When I watch the principled resistance of Doug Armato[2] to an onslaught from the religious right, I know that you are still making heroes here.

One of the most insidious forces we face is convergence. Beyond the financial and political power that comes with the corporate side of convergence, there is something even more insidious—a kind of intellectual convergence. The temple of convergence is CNN, which has positioned itself as the official soundtrack to life on the planet. It provides the play-by-play for every major news event as well as for the minor ones it discovers to fill dead air time. Its interpretative simplification of events is an ever-present political force. The lines have blurred between entertainment and journalism. CNN is intricately linked spiritually as well as corporately to its cousins at AOL Time Warner. Their narrative techniques are the same; at times it seems that the fictional villains and the real ones are interchangeable. Violence is the principal leitmotif and we watch it again and again until numbed to it. Bad guys are bad because they are against us. And when they are really bad, the inevitable conclusion is that you need Rambo.

In the midst of the dark days last fall that were so dominated by that repetitive play-by-play, Books for Understanding was a beacon [see accompanying article]. For thinking Americans, there was somewhere to look to for real understanding of what lay behind September 11 and what might lie ahead. Thank you, Sandy Thatcher [Director, Pennsylvania State University Press] and Brenna McLaughlin [Communications Manager, AAUP], for the idea and for pulling it all together so quickly and so well—thank you, Peter Givler [Executive Director, AAUP] and the rest of the staff, for steering a straight course when your city was in turmoil and thank you, AAUP presses, for having already published that extraordinary body of rich complex interpretative books—without even a hint of opportunistic intent.

Most of our books are narrow and specialized. Sometimes we can broaden their potential audiences through good publishing, but often we can't, and they are still important. They are demanding of the reader, they are complex. We should strive to avoid the obscure, but we should never apologize for complexity. Life is complex, and the forces that drive social life and international relations are rooted in that complexity. By the very nature of what we publish, whatever its political perspective, we are dissenters against the simplification of the CNNs--against the dumbing down of life.

> *By the very nature of what we publish, whatever its political perspective, we are dissenters against the simplification of the CNNs—against the dumbing down of life.*

Indulge me for a moment and consider this style sheet from the 20th-century literary canon: "It's a beautiful thing, the destruction of words. Of course the great wastage is in the verbs and adjectives, but there are hundreds of nouns that can be got rid of as well. It isn't only the synonyms; there are also the antonyms. After all, what justification is there for a word which is simply the opposite of some other word? A word contains its opposite in itself. Take 'good,' for instance. If you have a word like 'good,' what need is there for a word like 'bad'? 'Ungood' will do just as well—better, because it's an exact opposite, which the other is not."

The speaker is Syme, the lexicographer who became a non-person—the book, *1984*.

Its author, Eric Blair (who wrote as George Orwell), was one of the greatest of all modern dissenters; next year will be the 100th anniversary of his birth. We have foolishly consigned this great work and its author to the intellectual remainder bin, but he has a lot to say to us today. It is stupidly convenient to think that his surveillance society was Russia and that the danger has passed along with the year 1984. I am sure Orwell would see the potential in a name like The Office of Homeland Security. And as for Newspeak—turn on your radio.

Some people think that dissent takes the form of a NO, but I'm with Molly Bloom, and Bill Sisler and John Lennon--I believe that it is a resounding YES.

—Copyright © 2002 R. Peter Milroy

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[1] The full speech is available in the AAUP newsletter *The Exchange* (Summer/Fall 2002) and on the Web <http://www.aaupnet.org/programs/annualmeeting/2002pres.html>.

[2] Douglas Armato is Director of the University of Minnesota Press, which recently published a controversial book, *Harmful to Minors: The Perils of Protecting Children from Sex*, by Judith Levine. For an overview of the controversy, see <http://www.upress.umn.edu/Books/L/levine_harmful.html>.

AAUP'S BOOKS FOR UNDERSTANDING PROJECT

In the immediate aftermath of the tragedies of September 11, 2001, the not-for-profit scholarly publishers of AAUP compiled the first Books for Understanding list. This bibliography was intended to direct teachers, scholars, journalists, librarians, booksellers, and others to desperately needed research and information about the background of those tragic events. The list, still available and still very relevant, grew to comprise more than 650 books on topics ranging from the history of Afghanistan, to United States foreign policy, to the operations of New York's World Trade Center. It was and is a welcome and well-used resource.

While that particular bibliography answers a very particular need, it also underscores an abiding commitment of university press publishing: to publish top research and scholarship in all necessary fields regardless of immediate commercial potential. Often the deep background to breaking news stories is contained only in books from the scholarly presses that are committed to the public interest.

Books for Understanding is now an ongoing project to identify for the public those university press books that are relevant to the news of the day. For example, the project recently compiled a bibliography on Iraq, which cites sources about Iraq's history, culture, and military power as well U.S. and international policy towards Iraq. Another recent list points to sources on business ethics, bankruptcy, energy policy, and other topics related to the collapse of Enron. The Books for Understanding lists are available on the AAUP Web site <http://www.aaupnet.org/booksforunderstanding.html>.

FEDERAL RELATIONS

Prue Adler, ARL Associate Executive Director, Federal Relations and Information Policy

U.S. SUPREME COURT HEARS CHALLENGE TO 1998 COPYRIGHT TERM EXTENSION ACT

by Amy Masciola, ARL Policy Analyst

On October 9, 2002, four years after Congress passed the Sonny Bono Copyright Term Extension Act (CTEA), the U.S. Supreme Court heard arguments in a challenge to the Act's constitutionality. Lawrence Lessig, noted legal scholar with the Stanford Law School Center for Internet & Society, represented petitioners in *Eric Eldred v. John Ashcroft*.[1]

The nation's first copyright law, passed in 1790, gave creators copyright protection for 14 years with the possibility of a 14-year renewal. Passed in October 1998, the CTEA retrospectively extended copyright protection of existing works by 20 years, from the life of the author plus 50 years (as mandated in the 1976 Copyright Act) to life of the author plus 70 years. The Act prospectively added 20 years of copyright protection to future works. For works made for hire, the term of protection was extended from 75 to 95 years, thus allowing major corporations such as Disney an additional 20 years of control over their works.[2]

> *The Framers were wary about allowing perpetual monopolies, and there is every reason to believe that they would have been as skeptical as the British pamphleteer of 1735 who remarked that allowing an endless series of term extensions would establish a de facto perpetual monopoly, "a Thing deservedly odious in the Eye of the Law." His warning seems as relevant today as [it] did then: If the CTEA is upheld, what is to prevent the great copyright holders [the movie studios, music publishers, etc.] from obtaining further extensions again and again, as often as the old ones expire? In the words of the pamphleteer, it will be "a great Cramp to Trade, a Discouragement to Learning, no Benefit to the Authors, but a general Tax on the Publick; and all this only to increase the private Gain of the Booksellers."*
>
> —Brief Amici Curiae of Tyler T. Ochoa, et al., *Eldred v. Ashcroft* 01-618 (2002), 29–30.

In May 2002, ARL joined others in the library, archival, historical, and musical communities in an amici curiae, or friends of the court, brief. The brief argued that, by passing the CTEA, Congress exceeded the limits on copyright protection authorized by the U.S. Constitution's Copyright Clause. According to amici, the CTEA upset the delicate balance between limited copyright protection for creators and the promotion of "progress [in] science and useful arts" through the growth of a vibrant public domain. According to Article I, Section 8, Clause 8 of the Constitution, "the Congress shall have power…to promote the progress of science and useful arts, by securing *for limited times* to authors and inventors the exclusive right to their respective writings and discoveries" (my emphasis). Congress has extended the term of copyright protection 11 times over the last 40 years, and petitioners argued that repeated extensions create, in practice, an unlimited term of copyright protection. Furthermore, petitioners argued there is a substantial harm to the public in perpetually keeping works under copyright protection, and lawmakers did not adequately consider those harms before enacting the legislation.

According to the brief, which was submitted by attorneys Arnold Lutzker and Carl Settlemyer of Lutzker & Lutzker on behalf of amici, the "CTEA gratuitously confers private gains on owners of copyrights in older works, imposes substantial, unexamined burdens on the public at large, and delays by decades the entry of substantial numbers of works into the public domain." The brief described the profound and negative effect the CTEA has had on non-copyright owners such as librarians, curators, archivists, historians, and other scholars, by prohibiting the republication and dissemination of older works that have no commercial value, yet are of strong interest to the scholarly community. Thus, the public's access to these older works of art, literature, music, and other forms of intellectual property is severely limited by significant fees for access and inhibitions on research, teaching, and the creation of new works based upon older works.

The brief cited examples of projects that preserve and provide access to historically significant works. *Documenting the American South* (DAS) is a project based at the University of North Carolina at Chapel Hill. DAS comprises more than 1,000 publications and manuscripts including slave narratives, Southern literature, and Confederate imprints. According to the brief, this project would be almost impossible without the existence of the public domain. The documents are scanned and proofed and then made available on the Internet free of charge; many are unavailable in any other research collection. Prior to the digitization of these primary materials, less than a dozen researchers per year used them. Now that they are available on the Internet, more than 5,000 people access them every year. This important project is limited, however: almost all of the documents in DAS are dated prior to 1923, despite the historical importance of later works, because of the high costs associated with identifying and obtaining permissions from copyright owners.[3]

As the brief explains, the CTEA imposes enormous burdens on scholars and teachers who use works with extended copyright terms, thus "new works cannot extensively quote primary sources, and scholarship and the public understanding of our history suffers." For example, the University of Washington's Ethnic & Community Press project has grappled with these burdens as it tries to provide faculty and students access to its electronic collection of ethnic and community newspapers. The items in this important collection were selected in order to complement a popular course in the history of mass communication at the University. Though the collection is also of wide interest to scholars, the strain on library resources associated with identifying the rights of journalists, photographers, and newspaper owners has inhibited the development of the project as well as its use in the classroom.

The retroactive nature of the CTEA was of particular concern to petitioners and amici. They pointed out that, according to the U.S. Supreme Court's decision in *Feist v. Rural Telephone Services*, the Constitution requires that, for a work to receive copyright protection, it must reflect creative expression or originality.[4] In addition, amici noted that the framers of the Clause intended to make copyright protection a stimulus to creativity by rewarding creators a limited monopoly on the proceeds of their work. Thus, according to James Madison, copyright protection should be understood as "a compensation for a benefit actually gained to the community as a purchase of property which the owner otherwise might withhold from public use." Amici argued that, by retroactively extending copyright protection to *existing* works, Congress did not meet the originality requirement or add any "extra incentive" to spur creativity. Instead, Congress "conferred a windfall of income principally upon the heirs and corporate successors-in-interest of authors, in exchange for no direct social benefit."

During oral arguments before the U.S. Supreme Court on October 9, Lessig claimed that the Copyright Clause is the most clearly worded limit on Congress's power in Article I of the Constitution—the only clause to specify both its ends, "to promote science and useful arts," and its means, "by securing for limited times...exclusive rights."[5] According to Lessig, "this case is about limits to an enumerated power" in the Copyright Clause, and if the CTEA is allowed to stand, there will be "no limit" on Congress's power to perpetually extend copyright. Some of the Justices agreed that the passage of the CTEA was bad public policy. Justice O'Connor said, "I can find a lot of fault with what Congress did here, [but] it's very difficult to find the basis in the Constitution" for taking the power to set such limits away from Congress. The Justices also expressed concern that overturning the CTEA would lead to "chaos" because it would call into question previous copyright extensions. However, both Justices Breyer and Scalia suggested the CTEA violates the "limited times" portion of the Copyright Clause. Justice Breyer asked if there is a difference between repeated limited extensions and "permanent copyright."[6]

According to Solicitor General Theodore B. Olson, who argued on behalf of the U.S. government, the CTEA protects copyright holders from the growing threat of Internet piracy. When pressed by the Justices on why Congress should not be limited to extending copyright terms to future works, he said the Constitution gives Congress, not the Courts, the power to make such decisions. He also argued that the CTEA brings U.S. copyright law in line with European copyright laws (a goal amici argue is "dubious...as a legal matter and overstated as a factual matter"). According to Olson, extending copyright protection by another 20 years encourages copyright holders to restore and disseminate their works using new technologies.

The U.S. Supreme Court is expected to issue its decision some time during the spring of 2003.

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[1] Brief for Petitioners, *Eric Eldred, et al., v. John D. Ashcroft*, 01-618 (2002), <http://eldred.cc/legal/supremecourt.html>.

[2] Brief Amici Curiae for the American Association of Law Libraries et al., *Eldred v. Ashcroft*, 01-618 (2002), <http://www.arl.org/info/frn/copy/amici5_20_02.pdf>.

[3] The Library of Congress has encountered similar difficulties in its efforts to digitize and provide access to its collections through the *American Memory* project. The electronic collection currently contains more than seven million items available to users for free through the Library's Web site. The richest parts of the collection date from before 1920 because of copyright restrictions. See Amici Brief, 19–21.

[4] *Feist Publications, Inc. v. Rural Telephone Services*, 499 U.S. 340 (1991).

[5] Petitioners' Brief, 10.

[6] Linda Greenhouse, "Justices Hear Arguments in Challenge to Copyrights," *New York Times*, Oct. 10, 2002. See also transcript of oral arguments, <http://www.arl.org/info/frn/copy/extension.html>.

For more information on the Copyright Term Extension Act of 1998, please visit the ARL Federal Relations CTEA Web site at <http://www.arl.org/info/frn/copy/extension.html>. The site includes links to all of the amici curiae briefs submitted in *Eldred v. Ashcroft*, as well as a primer on the CTEA's impact on the library community.

If you need information about the Federal Relations and Information Policy program, please contact Prue Adler <prue@arl.org> or Amy Masciola <amy@arl.org>.

MASS DEACIDIFICATION IN 2002 AND THE UNIVERSITY OF MICHIGAN EXPERIENCE

by Shannon Zachary, Head of Conservation Services, Preservation Division, University of Michigan Library

Editor's note: The following paper was presented at "Redefining Preservation, Shaping New Solutions, Forging New Partnerships," a conference cosponsored by the University of Michigan Library and ARL and held in Ann Arbor, Michigan, March 7–8, 2002. See <http://www.lib.umich.edu/conferences/preservation/presconfnotes2.html>.

Alum-rosin sizing for paper came into commercial use in 1835, ground-wood fiber in 1869. Their effect on the longevity of paper sparked concern and protest in libraries and government archives in the 1890s, 1880s, and even earlier. So why revisit this topic yet again in 2002? Because the brittle books problem hasn't gone away.

Indeed, after 130 years the effects of acidic paper on research collections face us daily. A survey at the University of Michigan in 1997 estimated that about 25% of the books in the general collections (nearly 1.5 million volumes) are now brittle. In addition, 59% (3.5 million volumes) are printed on acidic paper but are not brittle (yet).[1] These numbers are similar to findings of surveys in other research libraries.

Our predecessors of a century ago proposed a suite of solutions to the acid paper problem: (1) encourage paper mills to produce permanent paper; (2) encourage publishers to select and use permanent paper; and (3) encourage scientists to find a way to rectify the problem after the fact.[2] Remarkably, each of these strategies still remains an active topic of debate today. The past decade, however, has seen some of the most dramatic changes yet in all of these areas. In the limited space of this paper I will attempt to: review major developments in paper, publishing, and mass deacidification over the past decade; outline our experience starting a mass deacidification program at the University of Michigan; and summarize the status of mass deacidification for research libraries today.

A Decade of Developments in the Paper and Publishing Industries

Ideally, at least from the viewpoint of those who manage research libraries, all books would come into the collection printed on durable, permanent paper. Several standards for permanent paper were written and approved in the 1980s and early 1990s, including the familiar American National Standards Institute Z39.48, approved in 1984 and revised in 1992. Thirteen years ago, in March 1989, "Commitment Day" was celebrated at the New York Public Library, when 40 publishers and a host of prominent authors pledged support for the use of permanent paper in hardcover first editions.[3] In October 1990 the U.S. Congressional Joint Resolution to Establish a National Policy on Permanent Paper was signed into law.[4]

But the big mover towards production of alkaline paper in this country has been the Environmental Protection Agency (EPA). EPA regulations governing the amount and kinds of effluent that paper mills can discharge created an impetus for mills to convert from acid to alkaline paper manufacture. Similar regulations have changed the way paper is made over large portions of the world.

I recently conducted a survey of new acquisitions at the University of Michigan's University Library. In a random sample of 400 titles selected from the more than 95,000 book-format monographs cataloged in 2000, 13% were printed on acidic paper and 86% were printed on alkaline paper, as indicated by a simple spot test with chlorophenol red.[5] I also found that 24% of the sample, or slightly less than one third of the books printed on alkaline paper, indicated by some sort of notice that the paper was either permanent or acid-free; 12% of the newly acquired monographs (about 10,500 volumes) would qualify for mass deacidification under our current criteria.

The percentage of new acquisitions on alkaline paper identified in this study (86%) is significantly higher than that found in similar surveys in other research collections in the early 1990s, which record percentages from 50% to 70%—and those numbers had risen dramatically from the 1980s.[6] The rate at which books on acidic paper are being added to the collections is dropping, a trend which seems consistent now for over a decade. While neutral or alkaline pH does not necessarily mean the paper has all of the desirable qualities to make it both durable and permanent, this trend is good news for library collections.

In this same decade, however, pressures on the publisher have become more complex. During my survey of new acquisitions, I came across a statement in several recent Cornell University Press books, showing that the needs of libraries are not the only demands being made on that poor soul in the publishing house who selects book paper. On the copyright page is the statement:

> Cornell University Press strives to use environmentally responsible suppliers and materials to the fullest extent possible in the publishing of its books. Such materials include vegetable-based, low-VOC inks and acid-free papers that are recycled, totally chlorine-free, or partly composed of nonwood fibers. Books that bear the logo of the FSC (Forest Stewardship Council) use paper taken from forests that have been inspected and

certified as meeting the highest standards for environmental and social responsibility. For further information, visit our Web site at www.cornellpress.cornell.edu.[7]

And this statement doesn't even mention aesthetics, machine compatibility, or cost. At the press's Web site I could find no links to information about the virtues of acid-free paper or paper permanence. The good world citizen in me commends the effort to use our natural resources more efficiently; the conservator trembles at the potential disasters some of this experimentation will inevitably produce.

Developments in Mass Deacidification over the Past Decade

Ten years ago, three technologies dominated the attention of American research libraries as they watched anxiously for a viable method of mass deacidification:

- The diethyl zinc process (DEZ), developed by conservation scientists at the Library of Congress and licensed to Texas Alkyls, later Akzo, had been through several pilot runs and was starting larger trials at a new plant near Houston.[8]
- A Wei T'o system, using a process originally researched in the 1970s by Richard Smith, had been developed in the Public Archives of Canada and went into production in the National Library of Canada in 1981; in the early 1990s the system reached peak production at over 200,000 volumes in a year.[9]
- The FMC-MG3 process, developed by the Lithium Division of the FMC Corporation in North Carolina, had performed test runs for a number of libraries.[10]

By the mid 1990s two significant events completely changed the picture. In December 1993, Akzo announced that it was closing down their DEZ plant.[11] Although scientists had corrected many of the problems that had dogged the process through its early experimentation, Akzo did not see a viable business future for the plant. In December 1995, use of chlorofluorocarbons (CFCs) was banned under the Montreal Protocol. Both the Wei T'o and FMC processes had been developed using CFCs as a carrier for the deacidification agent and were left scrambling to find alternatives. Major evaluative reports published in the early 1990s became outdated almost as soon as they were published.[12] Efforts in 1993 by ARL to create a critical mass of libraries engaging in large-scale deacidification were checked.[13] Many libraries that had taken a "wait and see" attitude were confirmed by these events in their motivation to do nothing.

At the same time, two new deacidification technologies—one in the U.S. and one in Germany—were quietly working their way from lab to pilot to production.

With funding from the German National Library, the Battelle Institute began research in 1987 to develop an effective deacidification system.[14] After progress through several pilot phases, the Battelle process transferred to the Zentrum für Buch-Erhaltung (ZfB) in 1997 to develop as a commercial service for libraries.[15] ZfB has been in operation in Leipzig for over three years, serving a number of European libraries by offering the Battelle deacidification process.

Even earlier in the 1980s the Koppers Company of North Carolina experimented with deacidification of paper. When Koppers decided there was no commercial future in mass deacidification and opted out in 1987, Richard Spatz took over the patent for what is now the Bookkeeper process. He founded Preservation Technologies Inc., now Preservation Technologies, L.P. (PTLP), located near Pittsburgh.[16] After testing, the Library of Congress began a pilot project working with PTLP in 1995 and has recently awarded them a major multi-year contract. In the latter part of the decade, other research libraries also started projects: University of Pennsylvania, University of Notre Dame, University of Maryland, Northwestern University, and Johns Hopkins, to name some that have shared their experiences in presentations and print.

It is not accidental that two of today's most successful mass deacidification operations were able to scale up gradually, as businesses. Both offer deacidification as a service rather than as machinery. The plant for both systems is capable of being replicated in multiple locations, possibly on site at a library or incorporated with a suite of related services. I am encouraged by ZfB's recent exploration into establishing services in the United States and by PTLP's purchase in January 2002 of its European licensee for the Bookkeeper process in the Netherlands. Libraries that were reluctant in the early 1990s can now get their feet wet with very small pilot programs, developing logistics and building confidence on limited budgets. These two companies are turning around that repeated verdict of "no business future for mass deacidification" of a decade ago.

Bookkeeper and Battelle—and Others

Is Battelle or Bookkeeper the better process? My personal jury is still out on that question.

Most mass deacidification systems consist primarily of an alkaline earth metal compound—the neutralizing agent—and a carrier that delivers that neutralizing agent into the intimate depths of the felted paper fibers. The carrier may be a liquid or a gas; a few systems dispense with a carrier altogether.

Both Battelle and Bookkeeper are liquid-phase deacidification processes. Both have established a good record of effectiveness and reliability. Both neutralize acids in paper and leave an alkaline buffer to combat future acid attacks.[17]

The Battelle process delivers the deacidification agent in solution and can deposit a finer, more integrated buffer onto the paper fiber. The carrier is an organic silicon compound, which can change the feel of the paper slightly, and a solvent, which may cause problems with some inks. The flammability of the solvent is an operating concern. Titanium compounds, which form part of the residual buffer on the paper, absorb ultraviolet light; it is still uncertain whether this will cause problems to the paper fiber long-term or will do so any more than other alkaline buffers.

The Bookkeeper process is perhaps gentler. The carrier is inherently a very poor solvent and so has exceptionally good compatibility with inks and other book components. The neutralizing agent, magnesium oxide, is deposited among the paper fibers as a finely divided solid rather than in solution. The magnesium oxide buffer can give the paper a chalky feel that many people find unpleasant.

In both technologies the carrier is recovered and reused, making the processes economical and environmentally sound.

While Bookkeeper and Battelle are most prominent in the literature in the U.S. today, there are other mass deacidification technologies in development or in operation around the world. Both the Wei T'o and FMC systems have identified better, environmentally friendly carriers.[18] Operations or research in mass deacidification is being conducted in France, China, and Japan, just to name some. All of this research is better informing our understanding of acid deterioration and remediation. As long ago as 1990, Peter Sparks warned in a Commission on Preservation and Access study that "no existing or future mass process will be perfect."[19] None is perfect but, with several alternatives available, libraries can select what best suits a particular need.

The University of Michigan Experience: Start-up and Maintenance of a Mass Deacidification Program

The University Library at the University of Michigan embarked on a pilot project to have Preservation Technologies (PTLP) deacidify 1,000 books by the Bookkeeper process in the spring of 1998. Since then the library has shipped 5,000–7,000 volumes each year—over 24,000 volumes to date—from Michigan to Pennsylvania for treatment.

Funding for the pilot program was found by reallocating $15,000 towards the project from within the preservation budget. The ongoing operations since have drawn on both base and one-time funding, with the active support of the director and collection managers. A 1998 endowment to the library included a portion especially earmarked for mass deacidification.

Most of our projects have been retrospective and collections-based. The 1998 pilot project treated materials relating to Vietnam. Between 1998 and 2001 we treated mathematics monographs—mathematics is one of the University of Michigan's comprehensive collections. Since completing the three-year retrospective project we have maintained commitment to the mathematics collection by treating new acquisitions. Currently the library is also deacidifying materials relating to the Philippines; this effort contributes part of the library's cost-share for a National Endowment for the Humanities grant project—the first time NEH has allowed mass deacidification as cost share. To date, the University of Michigan has not treated materials from the rare and special collections.

The technology imposes some limitations on which materials can or cannot be treated. The physical capacity of the racks limits size, shape, and weight. Clay-coated papers are not good candidates: the clay coating is already alkaline and is dense enough to resist penetration by the deacidification agent. Almost no pre-selecting for sensitive inks or cover materials has proved necessary. Books already on alkaline paper don't need deacidification. Books already brittle are rejected from the workflow. Our definition of "brittle," however, has tightened. While in the past we would call any item brittle if the pages broke within two double folds, now we consider a book too brittle to select for deacidification only if the paper breaks within the first doublefold. The aim is to let the preservation reformatting program concentrate on the most brittle of the brittle while buying more time for marginal materials.

An unintended effect of the deacidification program has been whole collection/whole book preservation of the target collections. Books with torn pages or damaged bindings are repaired or rebound before treatment. Brittle books are identified for review for reformatting.

Altogether a book is off the shelf for four to six weeks to undergo treatment. Shipments average 275 books and are sent out every other week. Library staff time for selection and processing the books out and checking them back in averages 2.25 minutes per book. The treatment cost, including vendor, shipping, and library staff, is currently about $16 per volume. Vendor costs for the University of Michigan have been negotiated jointly by the Committee on Institutional Cooperation (CIC) consortium of Midwestern research libraries on the basis of their collective level of commitment to mass deacidification services from PTLP.

Good Sides and Downsides of Mass Deacidification

After the initial effort to get the routines up and running, the mass deacidification program at the University of Michigan has generally run smoothly. Maintaining the program is no more difficult or complex than maintaining a program for commercial binding—and is often less so. But there are limitations and downsides to mass deacidification. Obvious considerations are cost, staff, and operations space. There is the time the book is off the shelf. There are risks in transit and processing, as there always are when books are handled in mass, including occasional physical damage or books lost.

A tested mass deacidification technology today can, with fair consistency and reliability, be expected to neutralize existing acids in paper and to leave an alkaline buffer. Paper so treated shows, in laboratory stress tests, better long-term retention of flexibility and strength. Experience has shown that the chemistry of raising the pH of paper is relatively easy; the devil is in the side effects. Current technologies have achieved good results in reducing the quantity and severity of the side effects, but some remain.

Conclusion

In sum I have observed that:

- The proportion of acidic paper in retrospective collections is high.
- Over the last decade there has been a significant drop in the rate at which acidic materials are being added to collections; other trends in papermaking may create new challenges to paper durability and permanence over time.
- At present there is one vendor, PTLP, for mass deacidification services in the U.S.; but there is promising potential for more providers and/or more plants, as well as vendors of supplies or equipment.
- Selection and routing of materials for deacidification treatment are no more difficult than other operations libraries routinely manage.
- Understanding of the mechanisms of paper deterioration gradually improves. There is no perfect mass deacidification process and it is unlikely that there ever will be.

Research libraries still have to make important decisions about their collections, weighing costs, risks, and potential gains. Mass deacidification is not the solution to all book deterioration problems. It has a place in a comprehensive preservation program, but it is not the whole program.

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[1] This survey excluded materials held in Special Collections.

[2] Barbra Buckner Higginbotham, *Our Past Preserved: A History of American Library Preservation 1876–1910* (Boston: G. K. Hall & Co., 1990): 141ff.

[3] Barbara Sagraves and Jane Welsh, "The Acid-Free Paper Pledge Six Years Later," *The Abbey Newsletter* 19, no. 4 (Sept. 1995).

[4] [Ellen McCrady], "Final Report to Congress on the Joint Resolution to Establish a National Policy on Permanent Papers," *Alkaline Paper Advocate* 9, no. 2 (July 1996).

[5] The numbers do not add up to 100% because of a few oddities and missing volumes. This survey did not examine serials or special collections materials.

[6] Ellen McCrady, "The pH of New Library Books, 1976–1993: A Compilation of Survey Results," *The Abbey Newsletter* 21, no. 1 (May 1997).

[7] From the copyright page of David E. Spiro, *The Hidden Hand of American Hegemony: Petrodollar Recycling and International Markets* (Ithaca, N.Y.: Cornell University Press, 1999).

[8] [Ellen McCrady], "Update on LC's Deacidification Program," *The Abbey Newsletter* 17, no. 2 (Sept. 1993).

[9] Richard D. Smith, "Mass Deacidification at the Public Archives of Canada," in *Conservation of Library and Archive Materials and the Graphic Arts*, ed. Guy Petherbridge (London: Butterworths, 1987): 125–137; and Réal Couture, "Challenges in Mass Deacidification," *National Library News* 31, nos. 7–8 (July/Aug. 1999), <http://www.nlc-bnc.ca/publications/2/p2-9907-05-e.html>.

[10] Robert S. Wedinger, "The FMC Mass Preservation System," *Restaurator* 12, no. 1 (1991): 1—17. Robert S. Wedinger, "The FMC Mass Preservation System: Enhancement and Extension of Useful Life," *Restaurator* 14, no. 2 (1993): 102–122.

[11] [Ellen McCrady], "Akzo Decides to Drop DEZ," *The Abbey Newsletter* 17, no. 6 (Nov. 1993).

[12] Reports on testing of Akzo-DEZ, Wei T'o, and/or FMC-MG3 were prepared by the Canadian Conservation Institute for The Metropolitan Toronto chairman's Committee for Preserving Documentary Heritage (1992–1994); the Institute of Paper Science and Technology for the Library of Congress (1991); and the National Preservation Office of the Netherlands, among others. For specific references see Suzanne Dodson and Johanna Welheiser, "Bibliography of Standards and Selected References Related to Preservation in Libraries" (section on "Paper-Based Collections/ Records: Mass Treatments"), (Ottawa: National Library of Canada, 1996), <http://www.nlc-bnc.ca/8/14/index-e.html>.

[13] [Ellen McCrady], "Mass Deacidification," *The Abbey Newsletter* 17, no. 1 (May 1993).

[14] J. Liers and P. Schwerdt, "The Battelle Mass Deacidification Process: Equipment and Technology," *Restaurator* 16, no. 1 (1995): 1–9.

[15] Zentrum für Buch-Erhaltung Web site: <http://www.zfb.com/>.

[16] Preservation Technologies, Inc., *A Gentle Approach to Deacidification with Preservation Technologies, Inc.*, (Cranberry Township, Penn.: Preservation Technologies, Inc., 1996); and see the Preservation Technologies, L.P., Web site: <http://www.ptlp.com/>.

[17] Sally Buchanan et al., *An Evaluation of the Bookkeeper Mass Deacidification Process*, Technical Evaluation Team Report for the Preservation Directorate, Library of Congress (Washington, D.C.: Library of Congress, 1994); and John Havermans, Ronald van Deventer, Sophia Pauk, and Henk Porck, *Deacidification of Books and Archival Materials with the Battelle Process: A Study Carried out by Order of the National Preservation Office of the Netherlands* (The Hague: Coördinatiepunt Nationaal Conservingsbeleid, February 1996), <http://www.kb.nl/coop/metamorfoze/publiciteit/cnc_rapporten/cncrapp09-en.pdf>.

[18] National Library of Canada, "The National Library of Canada and Wei T'o Associates Receive the 1999 U.S. Environmental Protection Agency's Stratospheric Ozone Protection Award," (Ottawa: National Library of Canada, Sept. 29, 1999), <http://www.nlc-bnc.ca/1/1/n1-230-e.html>.

[19] Peter G. Sparks, *Technical Considerations in Choosing Mass Deacidification Processes* (Washington, D.C.: Commission on Preservation and Access, May 1990), <http://www.clir.org/pubs/reports/sparks/sparks.html>.

BEST COPY AVAILABLE

ARL ACTIVITIES

Kaylyn Hipps, ARL Editorial & Research Associate

MIT PRESIDENT CALLS ON LIBRARIES TO ACCELERATE THE OPEN SHARING OF KNOWLEDGE

by Judith Matz, ARL Communications Officer

Addressing the membership of the Association of Research Libraries (ARL), Chuck M. Vest, President of the Massachusetts Institute of Technology (MIT), described steps underway at MIT to accelerate the movement toward the open sharing of knowledge. Defining research libraries as stewards of accessible knowledge, he urged them to take on a major role within their institutions to use educational technology for promoting open access and shared resources.

Dr. Vest spoke of two new MIT initiatives, involving faculty and librarians, to manage and share knowledge and promote accessibility. OpenCourseWare (OCW) <http://ocw.mit.edu/> taps the power of the Internet to make MIT's educational materials available anywhere, at any time, and with no cost. By openly sharing course materials, MIT hopes to create a global web of knowledge that will enhance the quality of learning worldwide.

MIT has also developed DSpace <http://www.dspace.org/>, a durable digital depository that offers a uniform mechanism to preserve, collect, and distribute the intellectual property of the university. By providing software that supports a simple submission process for faculty and excellent search mechanisms, DSpace hopes to create a federation of university libraries. DSpace will make available the collective intellectual resources of research universities and also enable small colleges to run repositories using their existing resources.

Acknowledging that these new initiatives might raise concerns among commercial publishers, Dr. Vest pointed out, "We respect the rights of others and the copyright law, but we hope to accelerate the movement toward open sharing of knowledge." In the search for equitable solutions, Dr. Vest turned to ARL members: "The expertise of research librarians in issues of copyright and intellectual property is an extraordinary asset and must be shared broadly."

"Today's stewardship of accessible knowledge is inherently interdisciplinary and necessarily connects the full range of activities from archiving to publishing. University research librarians," Vest concluded, "are central to managing this complex range of activities and can play a major role in accelerating efforts toward the open sharing of knowledge."

Dr. Vest's remarks were made October 17 at the 141st ARL Membership Meeting in Washington, D.C. The receptive audience was comprised of the dean or director of the research libraries from the larger research institutions in the United States and Canada. The meeting presentations—including Dr. Vest's—are on the ARL Web site at <http://www.arl.org/arl/proceedings/141/>.

ARL CELEBRATES 70 YEARS AND LOOKS TO THE FUTURE

by Judith Matz, ARL Communications Officer

One hundred and twelve member institutions were represented at ARL's 141st Membership Meeting, held in Washington, D.C., on October 16–17. More than 40 former ARL directors and guests joined the celebration as the Association marked its 70th anniversary. Digital preservation strategies and the open sharing of knowledge were the major themes of the meeting.

Anniversary Celebration

The meeting began with a special program to commemorate ARL's 70th anniversary. ARL President Paula Kaufman (Illinois at Urbana-Champaign) welcomed the Association's newest member, the University of Louisville, represented by Hannelore Rader. Four new ARL directors were introduced: Wendy Lougee (Minnesota), Randy Olsen (Brigham Young), Deborah Carver (Oregon), and Peter Young (National Agricultural Library). Merrily Taylor (Brown) was recognized for her 20 years of continuous service as an ARL director, and members saluted retiring director, Don Bosseau (Miami).

ARL Executive Director Duane Webster introduced the former ARL directors and announced that the most senior of those at the meeting was Robert Blackburn (Toronto) who attended his first ARL Membership Meeting in 1948. William Crowe (Kansas) delivered a celebratory address, "The End of History? Reflections on a Decade," highlighting the trends that epitomize the past decade of ARL activities. James Neal (Columbia) then discussed "Turnover Trends: ARL Library Directors, 1948–2002," analyzing the levels and patterns of turnover among research library directors and exploring the impact and reasons for this turnover.

Digital Preservation Strategies

Nancy Gwinn (Smithsonian Institution), chair of the ARL Preservation Committee, convened a program on "Emerging Digital Preservation Strategies." Dale Flecker (Harvard) spoke of his university's e-journal archiving study, and Kevin Guthrie, President of JSTOR, discussed the organizational challenges of building an electronic archive and the relationship of the e-archive to JSTOR's print archive. Ms. Gwinn also paid tribute to Jan Merrill-Oldham (Harvard) for 15 years of service as consultant to the Preservation Committee.

Open Sharing of Knowledge

Chuck M. Vest, President of MIT, was the featured speaker for a program session on "Universities in the Digital Age." He described two new MIT initiatives, OpenCourseWare and DSpace, designed to manage and share knowledge and promote accessibility. Defining research libraries as the stewards of accessible knowledge, he called on the

ARL membership to assume major roles within their institutions to accelerate the open sharing of intellectual resources.

At the Federal Relations lunch, Rick Weingarten, Director of the American Library Association Office for Information Technology Policy, spoke about a subject of increasing interest and importance to ARL members: digital rights management and copyright. After a spirited question-and-answer period, members chose among three concurrent discussion groups:

- "Future Needs for Cyber Infrastructure: Recommendations of the NSF Blue Ribbon Panel," led by Dan Atkins (University of Michigan)
- "ARL Input for the ACRL Task Force on the Future," led by Shirley Baker (Washington University in St. Louis)
- "Building an Affordable E-Journal Archive and Preservation System: LOCKSS," led by Vicky Reich (Stanford University)

ARL Business Meeting

At the ARL Business Meeting, members elected three new ARL Board members: Rush Miller (Pittsburgh), Sherrie Schmidt (Arizona State), and Paul Willis (South Carolina). President Paula Kaufman announced that the Board elected Sarah Thomas (Cornell) as Vice President/President Elect. At the conclusion of the meeting, Ms. Kaufman presented the gavel to Fred Heath (Texas A&M), who began his year as ARL president.

Background papers, slides, and summaries of the meeting presentations appear on the ARL Web site at <http://www.arl.org/arl/proceedings/141/>.

INSTITUTIONAL REPOSITORIES EXAMINED IN NORTH AMERICA AND EUROPE

by Alison Buckholtz, SPARC Associate Enterprise Director

SPARC and SPARC Europe cosponsored two meetings in October to encourage the development of institutional repositories. The Washington workshop, "Institutional Repositories: A Workshop on Creating an Infrastructure for Faculty-Library Partnerships" (also sponsored by ARL and CNI) took place October 18. The goal was to help academic and research library and information technology directors and their senior staffs begin planning for the implementation of repositories designed to house faculty works, such as articles, data sets, images, video, and courseware.

SPARC's position paper, "The Case for Institutional Repositories," and the new "Institutional Repository Checklist & Resource Guide" set the stage for the workshop. With over 250 participants, including a large number of library directors, the workshop both educated and energized the community. To follow up, SPARC created an online discussion list where individuals interested in institutional repositories can ask questions, share best practices and debate relevant issues. To sign up, go to <https://mx2.arl.org/Lists/SPARC-IR/>.

Speakers included Paul Ginsparg, Professor of Physics and Computer Science, Cornell University; James Neal, Vice President and University Librarian, Columbia University; Joseph Branin, Director of Libraries, Ohio State University; Ann Wolpert, Director of Libraries, Massachusetts Institute of Technology; Marc Mayerson, Associate Dean of Social Sciences, University of California, Los Angeles; and many others. Presentations are available at <http://www.arl.org/IR_agenda.html>.

A parallel workshop, held at the CERN Library in Geneva, Switzerland, on October 17–19, covered related ground for the European community. SPARC cosponsored this "Second Workshop on the Open Archives Initiative: Gaining Independence with E-Prints Archives and OAI." Other sponsors included the European Science Foundation, the Joint Information Systems Committee (JISC), the Open Society Institute (OSI), LIBER, and the CERN Library.

The Geneva workshop guided its 135 participants through the process of conceiving, implementing, and maintaining an e-print archive or OAI-compliant repository. The focus was equally on the technical and organizational aspects of creating such repositories. Both institutional repositories and discipline-oriented servers were discussed in detail.

Speakers included Jean-Claude Guedon, University of Montreal; Herbert von de Sompel, Los Alamos National Laboratory and OAI; John Ober, California Digital Library; Fred Friend, University College London; Elizabeth Cherhal, Mathdoc/Grenoble; and many others. To view video and slides of the presentations, please see <http://documents.cern.ch/AGE/current/fullAgenda.php?ida=a02333>.

A third workshop, "Research Innovation and Scholarship: The Role of Open Access Publishing," is scheduled for November 21–22 in Ottawa, Ontario. This event, sponsored by the Canadian Association of Research Libraries, will focus on e-prints, institutional repositories, and the OAI. For more information, visit <http://www.carl-abrc.ca/>.

ARL

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ARL CALENDAR 2003

January 20–24	Web Development with XML: Design and Applications *Tucson, Arizona*
February 6–7	**ARL Board Meeting** *Washington, D.C.*
February 25–28	Library Management Skills Institute II: The Organization *Tempe, Arizona*
February 26–28	Advanced Licensing Workshop *San Diego, California*
March 11–12	Culture of Assessment Institute *Denver, Colorado*
April 10	New Ways of Listening to Users: LibQUAL+™ *Charlotte, North Carolina*
April 28–29	CNI Spring Task Force Meeting *Washington, D.C.*
May 6–7	Library Management Skills Institute I: The Manager *Location to be announced*
May 12–16	Service Quality Evaluation Academy *San Antonio, Texas*
May 13–16	**ARL Board and Membership Meeting** *Lexington, Kentucky*
July 28–29	**ARL Board Meeting** *Washington, D.C.*
September 16–18	Facilitation Skills Institute *Location to be announced*
September 23–25	Library Leadership for New Managers Program *Location to be announced*
October 7–8	Leading Change *Washington, D.C.*
October 14–17	**ARL Board and Membership Meeting** *Washington, D.C.*
November 4–6	Library Management Skills Institute I: The Manager *Location to be announced*
December 8–9	CNI Fall Task Force Meeting *Portland, Oregon*

ONLINE LYCEUM

Can't make it to our in-person events? Take a look at our Online Lyceum Web-based course offerings at <http://www.arl.org/training/lyceum.html>.

ARL

A BIMONTHLY REPORT ON RESEARCH LIBRARY ISSUES AND ACTIONS FROM ARL, CNI, AND SPARC

December 2002

225 SPECIAL ISSUE: COLLECTIONS & ACCESS FOR THE 21ST-CENTURY SCHOLAR

COLLECTIONS & ACCESS FOR THE 21ST-CENTURY SCHOLAR: CHANGING ROLES OF RESEARCH LIBRARIES

A Report from the ARL Collections & Access Issues Task Force

INTRODUCTION AND ENVIRONMENTAL TRENDS

In October 2001, ARL sponsored a forum on "Collections & Access for the 21st-Century Scholar." A prevailing theme of papers and discussions at that forum was how the changes in the environment of scholarly communication were shifting or blurring boundaries of responsibilities within the library, across campus, and externally among the many stakeholders in the system. The forum participants concurred that this fluid and unsettled environment presented both leadership opportunities and challenges for a library, especially in regard to the library's collection management decisions and access strategies. In early 2002, the ARL Collections and Access Issues Task Force was formed to follow up on the discussions at that forum, and to make recommendations on new or revised collections and access agendas for the Association.

This paper identifies what the task force believes to be the salient factors that are influencing the general climate of change for these research libraries, as well as the significant changes and emerging trends in collection management and access strategies. The findings are based on a summer 2002 Web survey of ARL member libraries,[1] a review of recent selected publications,[2] personal experience, and conversations with colleagues who also direct research libraries.

Transformation of the Research Institution

The task force assessment of the transformations underway in research libraries was made in the context of the ongoing change of research institutions and of the very process of scholarly communication. Transformation in a library to a large degree mirrors the ongoing change of the research institution or university, just as the transformation of the institution reflects broader societal and cultural changes. The transformation of the research library cannot be understood apart from this larger context and the cultural changes and trends that shape institutional growth. Change at the institutional or university level has tended toward the erratic, with the juxtaposition of explosive technological breakthroughs with the more conservative academic culture.

Examples of significant transformations currently underway in research universities include:

- Undergraduate curriculum reform, including the infusion of research into undergraduate education
- A renewed focus on stimulating interaction between the institution and other communities, including K–12, local organizations and residents, and the international community
- Increasing support for learning and research on global and interdisciplinary issues
- A resurgence of use of supercomputing and new network applications made possible by Internet2
- Institutional cultural changes, including an increased focus on assessment and outcomes

Also at the university level, the Web and educational technologies have:

- Improved sharing of data within the institution in ways not previously possible, including the deployment of institution-wide systems in support of academic and administrative operations
- Allowed increased opportunities for reaching more students through distributed and distance learning, including learning opportunities for alumni. These opportunities have allowed greater access to higher education, especially for non-traditional populations, although society still ascribes greater value to the traditional on-site degree.
- Provided alternative and innovative publishing opportunities for faculty, graduate students, and research scholars
- Provided new opportunities for the creation of knowledge. Web applications for course development and the conduct of research have enabled faculty and researchers to establish interest-based online communities. These communities allow for the exchange of knowledge and the iterative process of scholarly communication; they also contribute to the community building that is essential for the creation of knowledge.
- Provided new opportunities for the presentation of research to colleagues and students. Innovative applications of new technologies are significantly enhancing and expanding the way research findings are communicated.

The National Research Council recently published a report on a two-year study examining the implications of information technology for the future of the nation's research university.[3] The report's conclusions include a finding that the extraordinary pace of information technology evolution is likely to continue and perhaps accelerate.

The ARL task force prepared the following report to provide a baseline picture of the ongoing transformation of the research library in the context of these broader changes, specifically in collection management and access strategies. The results of this study and the task force survey provide clear empirical evidence that significant change and innovation are occurring in research libraries of all sizes and characteristics. The task force hopes that disseminating this information will encourage further innovation and support for increased core funding for such innovations. Toward that end, this paper seeks to raise awareness of how the roles of research libraries are changing. University provosts, faculty, chief information officers, library staff, and other decision makers may find these results useful in securing support for their own library's innovative efforts.

FROM PAGE 1

[1] Sixty libraries responded to the task force survey, providing over 150 examples of new approaches to research library collection management and access services. Library responses to the survey are published on the ARL Web site <http://db.arl.org/CAsort/>; see pages 7–9 of this report for more information on the survey and on the Web interface for searching the results.

[2] Case studies written by Suzanne Thorin and Dan Greenstein, *The Digital Library: A Biography* (Washington, D.C.: Digital Library Federation, Council on Library Resources, September 2002), and essays such as the one by Wendy Pradt Lougee, *Diffuse Libraries: Emergent Roles for the Research Library in the Digital Age* (Washington, D.C.: Council on Library Resources, August 2002), describe the deeper, archetypal changes that are radically transforming the ways in which libraries are perceived, created, and used. Thorin and Greenstein describe the process by which digital library programs in six large research libraries are evolving along a continuum of maturation, while Lougee elaborates her vision of the role for the research library overall, focusing on the role of collaboration in order to bring about diffusion of the library into the culture of the institution. The task force wants to acknowledge the influence of the Lougee paper, in particular, for providing a vocabulary that captured perfectly the trends under study. Any use by the task force of the phrase "diffusing the library into the culture of the institution" is attributed directly to the Wendy Lougee essay.

FROM PAGE 2

[3] *Preparing for the Revolution: Information Technology and the Future of the Research University* (Washington, D.C.: The National Academies Press, 2002).

Changing Patterns of Information Use

Within this changing environment, research libraries understand more keenly than ever the new ways in which clients are seeking and using information. Libraries see an expanding base of users and, in many instances, changing service demands. There is ample evidence that when libraries make quality content available through the Web, its use increases and it reaches more people within the institution. In addition, the user base for any individual library has expanded to include users beyond the institution. This has been achieved through more efficient resource-sharing arrangements (often statewide) as well as by targeting new user groups for digitized content and e-services (distance learners, K–12 teachers, etc.). In many cases, openly accessible digitized collections on the Web are also being used heavily by people from beyond the educational world.

Despite press accounts to the contrary, research libraries report that use of the library's physical facility remains heavy, especially for collaborative learning and research activities and for access to computers and information technologies. As a result, many libraries have moved to provide 24/5 (or greater) access to the library buildings. At the same time, there is growing evidence in the data collected from ARL member libraries that the service demands of users may be changing. Many libraries see declining use of some traditional services, such as use of some print materials, circulation transactions, and reference transactions. However, the data confirm that the demands for interlibrary borrowing and for user education are steadily increasing (see chart on page 5). These trends signal a shift in the behavior of information users that is being closely monitored.

Research on the information-seeking behavior of people is growing almost as fast as the Web itself. Some of the studies reviewed and discussed by the task force members are briefly noted below.[4]

Pew Internet & American Life Project

The Pew Internet & American Life Project[5] creates and funds original, academic-quality research that explores the impact of the Internet on children, families, communities, the workplace, schools, health care, and civic/political life. The project aims to be an authoritative source for timely information on the Internet's growth and societal impact, through research that is scrupulously impartial. For example, in *The Internet Goes to College: How Students are Living in the Future with Today's Technology*, issued September 15, 2002, the Pew research found that college students are early adopters and heavy users of the Internet and that they think the Internet has enhanced their education and changed their social life. An overwhelming number of college students reported that the Internet, rather than the library, is the primary site of their information searches. "Many students are likely to use information found on search engines and various Web sites as research materials....A great challenge for today's colleges is how to teach students search techniques that will get them to the information they want and how to evaluate it....While few universities require college students to take courses on information seeking, many include a session on it during freshman orientation meetings. College students seem to rely on information seeking habits formed prior to arriving at college. *Teenage Life Online*, a Pew Internet & American Life Project report published in June 2001, reports that 94% of online teens have used the Internet for school research, and 71% used it as a major source for a recent school project."[6]

UCLA Higher Education Research Institute Study of College Freshmen

The annual study of college freshmen that is conducted by the University of

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[4] There are many other use and usage assessment projects underway both within and beyond libraries. To illustrate: the University of California libraries are studying the behavior and attitudes of users when selected print journals for which electronic access is provided are relocated and primary use is of the electronic version <http://www.ucop.edu/cmi/>; Canadian scientists are being asked about the impact on their research of the availability of electronic journals via the Canadian National Site Licensing Project; OhioLink regularly publishes data on the use being made of the electronic resources offered via that consortium; and the Ingenta Institute—an arm of Ingenta, a company in the management and distribution of published scientific, professional, and academic research via the Internet—is a frequent sponsor of research and conferences on user behavior in the networked environment.

[5] See <http://www.pewinternet.org/>.

[6] See Steve Jones, *The Internet Goes to College: How Students Are Living in the Future with Today's Technology* (Washington, D.C.: Pew Internet & American Life Project, Sept. 2002), <http://www.pewinternet.org/reports/toc.asp?Report=71>; and Amanda Lenhart, Lee Rainie, and Oliver Lewis, *Teenage Life Online: The Rise of the Instant-Message Generation and the Internet's Impact on Friendships and Family Relationships* (Washington, D.C.: Pew Internet & American Life Project, June 2002), <http://www.pewinternet.org/reports/toc.asp?Report=36>.

California, Los Angeles (UCLA) Higher Education Research Institute identified the same trend as the Pew research. The UCLA survey recently showed that 83% of new freshmen—more than four out of five students—are using the Internet for research or homework.[7]

OCLC White Paper on the Information Habits of College Students

OCLC commissioned Harris Interactive to conduct a blind research study with college students who use the Internet for school-related assignments. Just over 1,000 students—89% of whom were undergraduates—from U.S. colleges participated. The study found that these students value access to accurate, up-to-date information with easily identifiable authors. They are aware of some shortcomings of information from the Web and of their needs for assistance in finding information in electronic or paper formats. According to the study, student perceptions are that library services do not meet their expectations, particularly for Web-based information services. Nonetheless, students continue to depend on the library for information resources, both in electronic and print formats, and there is opportunity for academic librarians to connect students with high-quality resources.[8]

Outsell Survey of Students and Faculty

To better understand how usage patterns are changing, the Digital Library Federation (DLF) and Council on Library and Information Resources (CLIR) commissioned Outsell, Inc., to conduct a large-scale study of over 3,000 undergraduates, graduate students, and faculty members from a wide range of academic institutions. Early analysis of this data concludes that this "population…is far from homogeneous in its level of sophistication, information needs and infrastructure requirements. Faculty and graduate students, in particular, seem to be omnivorous in their appetite for information, creative in their strategies for seeking and acquiring information in all forms, and very independent. They appear to seek tools, services, and facilities that they can use where and when they need them. So far, most faculty, graduate students and undergraduates seem to prefer a hybrid information environment in which information in electronic form does not supplant information in print but adds to the range of equipment, resources, and services available to teachers and students."[9]

Harvard University Library Survey of Harvard Seniors

A recent study of Harvard seniors looks at student use of print, library electronic sources, and non-library electronic sources in researching papers in the humanities, social sciences, and natural sciences. The results revealed that the highest percentage of resources used (75% in humanities, 69% in social science, and 65% in natural science) were print materials, which students ranked higher than library and non-library electronic sources in four out of five factors. The Internet-based sources scored high only on the factor of convenience, while print materials scored high on the factors that make a difference in the quality of research and learning: generating the information for which the student is looking, the usefulness of the material, its reliability, and the availability of assistance.[10] One suggestive interpretation is that a college course of study has a tremendous sobering effect in revealing the real value of the currently available Internet resources.

LibQUAL+™

LibQUAL+™ is a research project being conducted by ARL in collaboration with Texas A&M University to define and measure library service quality across institutions by seeking feedback from clients about their experiences with the library and the extent to which the library meets their stated needs.

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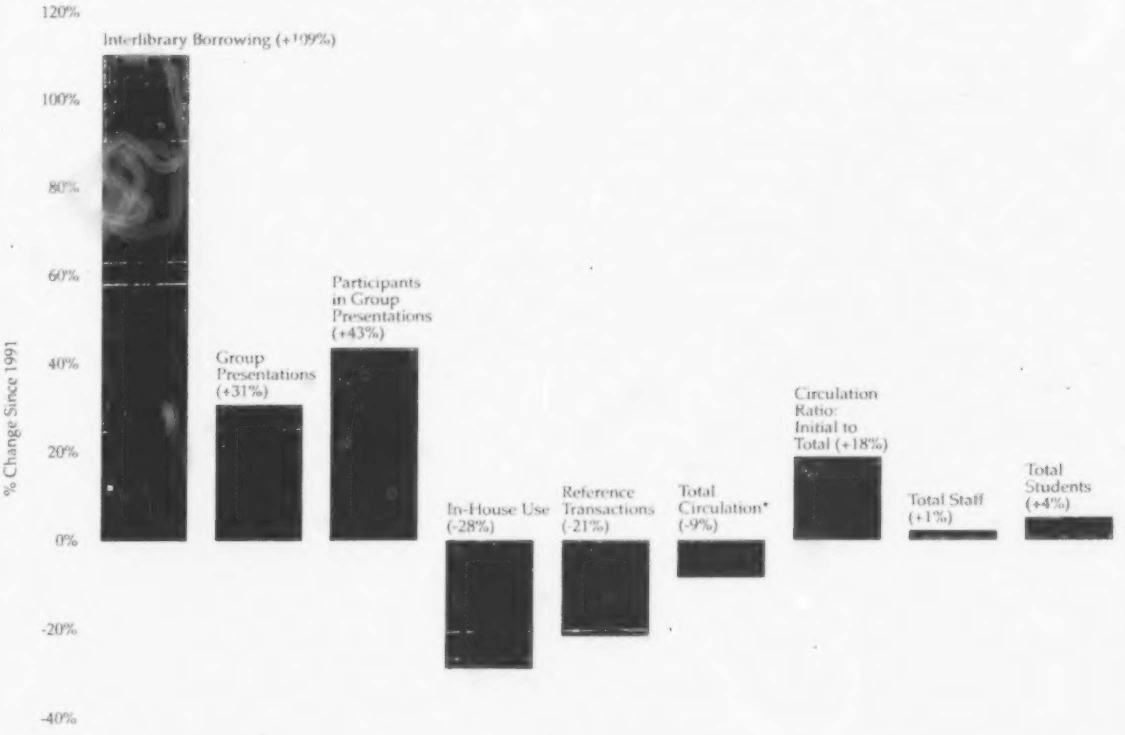
[7] See L.J. Sax et al., *The American Freshman: National Norms for Fall 1998* (Los Angeles: Higher Education Research Institute, UCLA Graduate School of Education and Information Studies, 1998), <http://www.gseis.ucla.edu/heri/press98.html>.

[8] See "How Academic Librarians Can Influence Students' Web-Based Information Choices" (Dublin, Ohio: OCLC, June 2002), <http://www2.oclc.org/oclc/pdf/printondemand/informationhabits.pdf>.

[9] Amy Friedlander, *Dimensions and Use of the Scholarly Information Environment: Introduction to a Data Set Assembled by the Digital Library Federation and Outsell, Inc.* (Washington, D.C.: Council on Library and Information Resources, 2002), <http://www.clir.org/pubs/abstract/pub110abst.html>. In addition to publishing this report, all 659 tables will be posted on the Web and CLIR will deposit the raw data tapes with the Inter-University Consortium for Political and Social Research (ICPSR).

[10] Harvard University, "Class of 2000 Senior Survey," data supplied by the Harvard University Library.

SERVICE TRENDS IN ARL LIBRARIES, 1991–2001



* Total Circulation includes Initial and Renewals but excludes Reserve Circulation.
Source: ARL Statistics 2000-01, Association of Research Libraries, 2002, <http://www.arl.org/stats/arlstat/graphs/2001/2001t1.html>.

In the spring of 2002, more than 78,000 library users from over 160 libraries responded to the Web-based LibQUAL+ survey that asks users about their perceptions of library service quality. In the aggregate, these users said that their libraries were most successful in providing physical facilities that meet their needs and in providing trained and caring staff. The dimension of service quality for which these users have the highest expectations is "personal control," i.e., services and tools that enable patrons to easily access and use information independently. The area that users identified as especially needing improvement is access to information (e.g., complete runs of journals, comprehensive print collections, convenient business hours, interdisciplinary resources/services, and speedy interlibrary loan).[11]

Library Responses in a Fluid Environment

The studies described above demonstrate that there is a change in how people are using libraries, but in light of the still-fluid nature of the environment, it is obvious that these behaviors have not yet sorted themselves into predictable patterns. There are differences across disciplines in terms of how information is used and to what extent new technologies are being embraced; libraries are recognizing these differences as they offer new services. There are also differences in the pace of change in different institutions; institutional cultures that allow, for example, some flexibility in personnel policies and practices as well as in budgetary reallocations, are more accommodating of experimentation and change. In this rapidly changing environment, libraries must continue

[11] *LibQUAL+™ Spring 2002 Survey Results* (Washington, D.C.: Association of Research Libraries, 2002); vol. 1, *Aggregate Statistics and Graphs*, <http://www.libqual.org/documents/admin/AggregateNotebook.pdf>.

monitoring trends, assessing their performance by seeking feedback from current users, and anticipating the needs of future users. To meet and anticipate these needs of the academic and research communities, libraries are collaborating as never before, forming partnerships both within and outside their own institutions, often sharing control in order to effect critical change.

While circumstances will vary from library to library, the results of the task force survey demonstrate many ways that libraries are responding to user expectations. The remainder of this report provides an overview of the current library response, and the task force survey Web site provides examples of new approaches to collections and access services that were provided by 60 research libraries.

In the task force survey, the most frequently cited examples of new approaches being taken by research libraries may be summarized as:

- Expanding E-Resources and Redefining Collections
- Expanding E-Services & Tools to Enhance User Access
- Reconfiguring Library Space to Support Learning and Research
- Emphasizing Instructional Technology Services and Information Literacy
- Making Organizational Change within the Library to Innovate and Improve Services
- Assuming Institution-Wide Leadership on Scholarly Communication Issues
- Looking for Opportunities to De-Emphasize Activities

These new approaches to collection management and access services are described in the section of this report called "What New Approaches Are Research Libaries Taking?" and actual library examples of these approaches are available in the task force survey responses on the ARL Web site <http://db.arl.org/CAsort/>. The Web interface is described below. Whether the library's action to pursue these strategies is proactive innovation or a reactive response to unexpected shifts in resources, the pattern of understanding and assessing to identify and meet the clients' needs through collaborative partnerships is a recurring theme.

COLLECTIONS & ACCESS SURVEY RESPONSES AVAILABLE ON ARL WEB SITE

In the summer of 2002, the ARL Task Force on Collections & Access Issues conducted a survey of ARL member libraries: *New Approaches to Research Library Collection Management and Access Services.* It was a simple survey with open-ended questions, not a census of how many libraries are pursuing any specific activity. Each library was invited to submit a brief description of at least one (and no more than three) library program or collection management activity that was introduced within the last four years or so. The result is a rich and informative database describing how research libraries are responding to changing patterns of user behavior and taking advantage of new technologies to deliver information resources and library services to the 21st-century scholar.

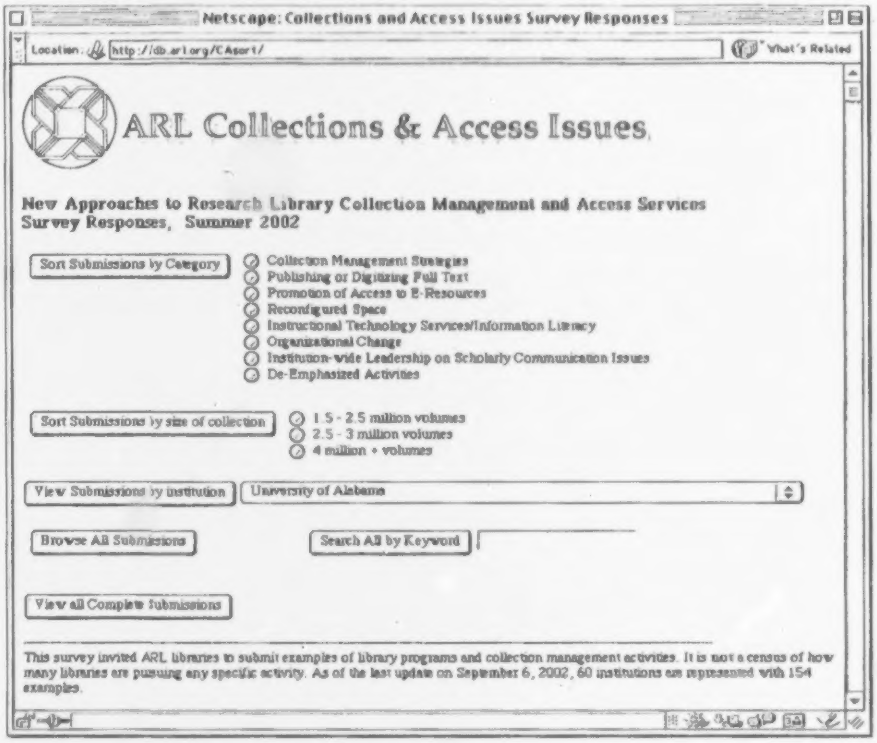
The survey asked two questions: 1) describe a new program or service that responds to changes in teaching and learning, including the growing reliance by students and other members of research institutions on the Web as an information source for their research, and 2) describe why, in general terms, the program or service was introduced, e.g., user demand, budget pressures, new curricula, etc.

Sixty libraries responded, providing over 150 examples. The responses were analyzed by the task force and sorted on the following factors: 1) by category of change or specific area of activity; 2) by size of library collection, e.g., 1.5–2.5 million volumes, 2.5–3 million volumes, and 4 million volumes or more; and 3) by individual institution.

ARL member libraries' responses to the task force survey are available on the ARL Web site <http://db.arl.org/CAsort/>. The search interface—pictured on the following pages—gives users the option of viewing survey responses by category of change or specific area of activity, by size of collection, or by institution name. The categories in the web display correspond generally to the sections in the next part of this report, i.e., Collection Management Strategies, Publishing/Digitizing Full Text, Promotion of Access to E-Resources, Reconfigured Space, Instructional Technology Services/Information Literacy, Organizational Change, Institution-wide Leadership on Scholarly Communication Issues, and De-Emphasized Activities. It is also possible to browse all library responses to the survey or to search them by keyword.

COLLECTIONS & ACCESS SURVEY RESPONSES ON ARL WEB SITE

Task force survey responses home page. *Browse the examples submitted by first selecting the desired category of change or specific area of activity (or size of collection or institution name), and then clicking on the relevant sort button.*


Netscape: Collections and Access Issues Survey Responses
Location: http://db.arl.org/CAsort/
What's Related
ARL Collections & Access Issues

New Approaches to Research Library Collection Management and Access Services
Survey Responses, Summer 2002

Sort Submissions by Category

○ Collection Management Strategies
○ Publishing or Digitizing Full Text
○ Promotion of Access to E-Resources
○ Reconfigured Space
○ Instructional Technology Services/Information Literacy
○ Organizational Change
○ Institution-wide Leadership on Scholarly Communication Issues
○ De-Emphasized Activities

Sort Submissions by size of collection

○ 1.5 - 2.5 million volumes
○ 2.5 - 3 million volumes
○ 4 million + volumes

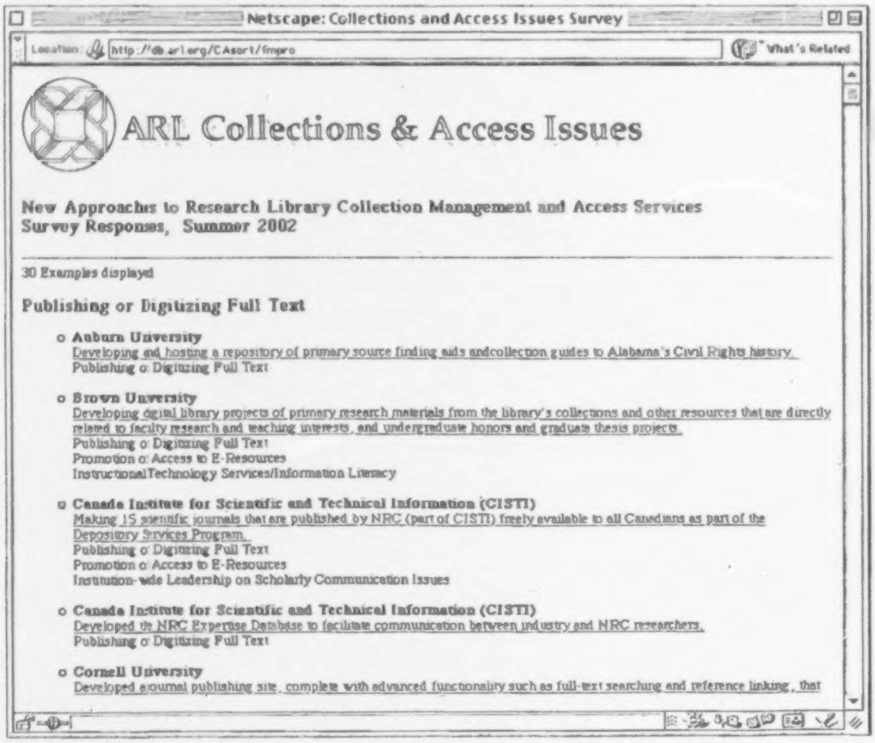
View Submissions by institution

University of Alabama

Browse All Submissions
Search All by Keyword
View all Complete Submissions

This survey invited ARL libraries to submit examples of library programs and collection management activities. It is not a census of how many libraries are pursuing any specific activity. As of the last update on September 6, 2002, 60 institutions are represented with 154 examples.

Five of thirty examples of new approaches involving publishing or digitizing full text. *Click on any example to view the description submitted by that library.*


Netscape: Collections and Access Issues Survey
Location: http://db.arl.org/CAsort/fmpro
What's Related
ARL Collections & Access Issues

New Approaches to Research Library Collection Management and Access Services
Survey Responses, Summer 2002

30 Examples displayed

Publishing or Digitizing Full Text

- **Auburn University**
  Developing and hosting a repository of primary source finding aids andcollection guides to Alabama's Civil Rights history.
  Publishing or Digitizing Full Text
- **Brown University**
  Developing digital library projects of primary research materials from the library's collections and other resources that are directly related to faculty research and teaching interests, and undergraduate honors and graduate thesis projects.
  Publishing or Digitizing Full Text
  Promotion of Access to E-Resources
  InstructionalTechnology Services/Information Literacy
- **Canada Institute for Scientific and Technical Information (CISTI)**
  Making 15 scientific journals that are published by NRC (part of CISTI) freely available to all Canadians as part of the Depository Services Program.
  Publishing or Digitizing Full Text
  Promotion of Access to E-Resources
  Institution-wide Leadership on Scholarly Communication Issues
- **Canada Institute for Scientific and Technical Information (CISTI)**
  Developed the NRC Expertise Database to facilitate communication between industry and NRC researchers.
  Publishing or Digitizing Full Text
- **Cornell University**
  Developed ejournal publishing site, complete with advanced functionality such as full-text searching and reference linking, that

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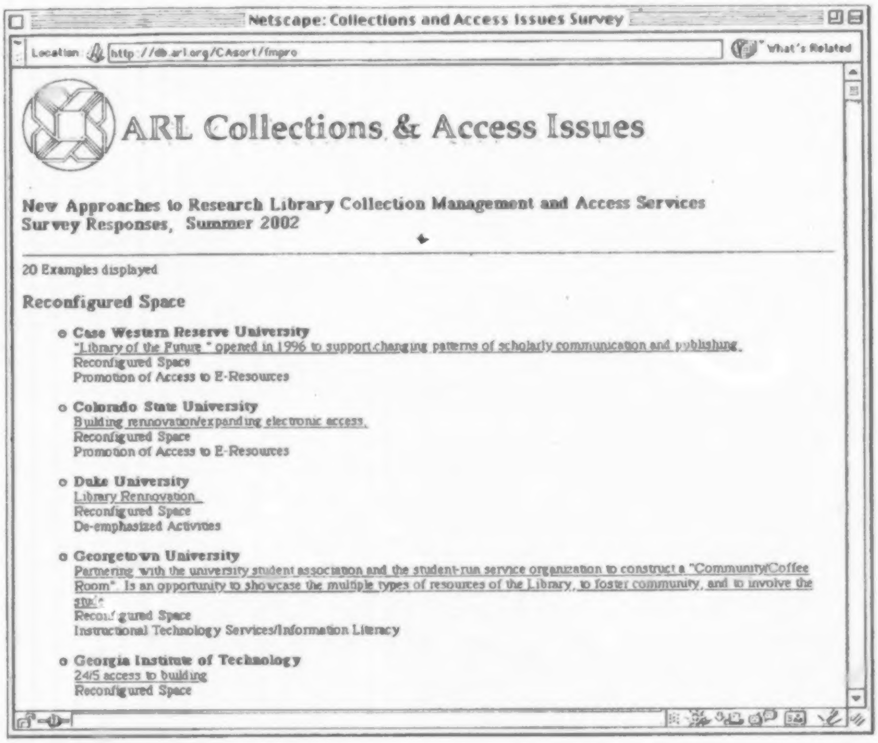

Netscape: Collections and Access Issues Survey
Location: http://db.arl.org/CAsort/fmpro
What's Related

ARL Collections & Access Issues

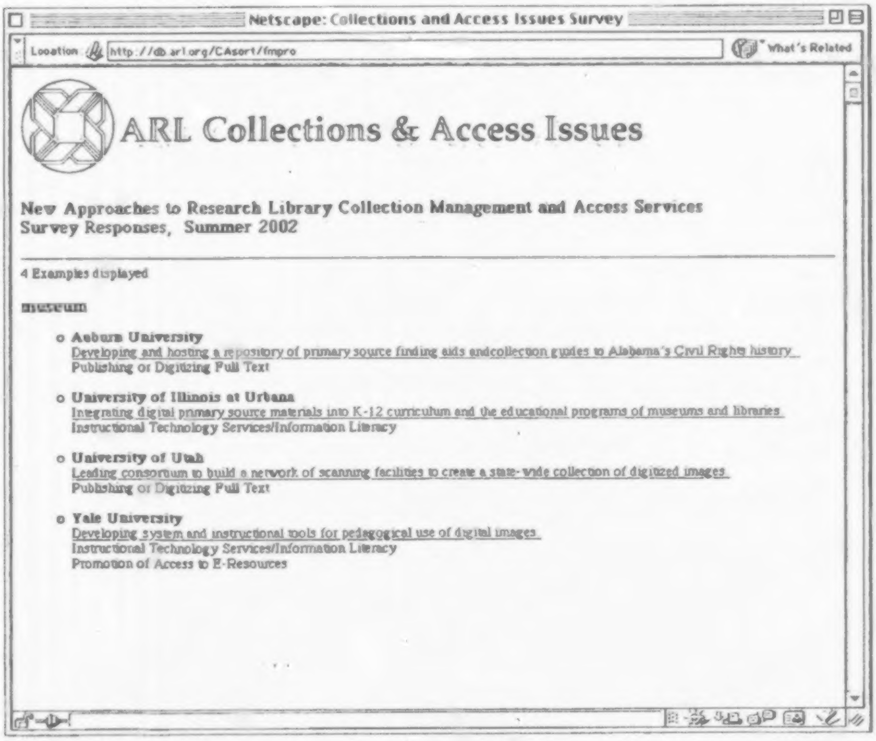
New Approaches to Research Library Collection Management and Access Services
Survey Responses, Summer 2002

20 Examples displayed

Reconfigured Space

- **Case Western Reserve University**
  "Library of the Future" opened in 1996 to support changing patterns of scholarly communication and publishing.
  Reconfigured Space
  Promotion of Access to E-Resources
- **Colorado State University**
  Building rennovation/expanding electronic access.
  Reconfigured Space
  Promotion of Access to E-Resources
- **Duke University**
  Library Rennovation
  Reconfigured Space
  De-emphasized Activities
- **Georgetown University**
  Partnering with the university student association and the student-run service organization to construct a "Community/Coffee Room". Is an opportunity to showcase the multiple types of resources of the Library, to foster community, and to involve the stu
  Reconfigured Space
  Instructional Technology Services/Information Literacy
- **Georgia Institute of Technology**
  24/5 access to building
  Reconfigured Space

Five of twenty examples of new approaches involving reconfigured space.
Click on any example to view the description submitted by that library.


Netscape: Collections and Access Issues Survey
Location: http://db.arl.org/CAsort/fmpro
What's Related

ARL Collections & Access Issues

New Approaches to Research Library Collection Management and Access Services
Survey Responses, Summer 2002

4 Examples displayed

museum

- **Auburn University**
  Developing and hosting a repository of primary source finding aids andcollection guides to Alabama's Civil Rights history
  Publishing or Digitizing Full Text
- **University of Illinois at Urbana**
  Integrating digital primary source materials into K-12 curriculum and the educational programs of museums and libraries
  Instructional Technology Services/Information Literacy
- **University of Utah**
  Leading consortium to build a network of scanning facilities to create a state-wide collection of digitized images
  Publishing or Digitizing Full Text
- **Yale University**
  Developing system and instructional tools for pedagogical use of digital images
  Instructional Technology Services/Information Literacy
  Promotion of Access to E-Resources

An illustration of a keyword search of the survey responses: four examples with descriptions that include the word "museum".
Click on any example to view the description submitted by that library.

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WHAT NEW APPROACHES ARE RESEARCH LIBRARIES TAKING?

Expanding E-Resources and Redefining Collections

Libraries are expanding the amount and variety of high-quality information resources that are directly available to academic and research users via the Web. They are also expanding the definition of collections to include "born-digital" content that is neither owned nor licensed by the library. The varied efforts toward this goal may be characterized as follows: changing collection development policies to emphasize the acquisition of electronic resources, engaging in digitizing and electronic publishing projects, and assuming responsibility for managing and servicing born-digital content that resides outside the domain of the library. Even in the electronic and networked environment, the economic model continues to feature the library as the central agency on campus that buys and/or manages information resources on behalf of the institution.

Emphasizing Electronic Resources in Collection Development

Libraries have shifted the focus of their collection development policies to the acquisition of more electronic content, much of it via consortia. While aggregate data documenting the quantity of e-resources currently being made available by libraries has proven elusive,[12] there is data on the spending trends. Over the last decade the average percentage of a research library's materials budget that is spent on electronic resources has grown from 4% to 16%. One hundred six ARL university libraries report spending more than $132 million on electronic resources in 2000–01. The vast majority of that was spent on electronic serials and subscription services, expenditures which have increased sharply, from just $11 million in 1994–95 to more than $117 million today. Also, 47 libraries report another $15 million expended on their behalf through centrally funded consortia.

To support this increased spending on electronic content, libraries have reallocated resources from the purchase of print. The extent of such reallocations will vary depending on institutional user expectations and financial circumstances.[13] Many libraries have adopted a policy of adding the e-version of journals when available (in some cases, also canceling the paper equivalent) and are showcasing titles of e-journals available to users via the Web by making this a staff priority and by applying software management tools for titles included in aggregated electronic databases.

The processes for selecting, budgeting, and acquiring electronic materials are continually changing and greatly differ from those for the selection and management of print. The print process is orderly: discrete amounts of money are allocated by discipline, the marketplace is fairly predictable, and materials are selected and ordered using established procedures.

By contrast, the processes for selection and management of electronic resources are chaotic. The migration from print to electronic varies in speed and extent by discipline; electronic products are interdisciplinary and expensive, giving rise to selection by committee; projections for future funding are guesswork; and archiving and content control are problematic. Legal and negotiation skills are now mandatory. To complicate matters, decisions are often made through a consortium. The process for acquiring electronic resources turns the traditional acquisitions and user service model topsy-turvy.

In building electronic collections, libraries must also constantly respond to changing publisher behavior. The most profound influence on a library's collection management and access strategies has been the extraordinary price increases for scholarly journals, combined with publishers' use of licensing to define the terms under which a library may make the content available and to whom. It is reasonable to speculate that these phenomena, driven by some of the larger publishers but now employed widely, make up one of the forces that prompted libraries to blend the previously distinct operations of collection management and access.

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[12] The ARL E-Metrics work is a multi-year effort to develop new statistics and measures that will describe electronic resources, the use made of them, and library expenditures to acquire them. For information on the project, see the ARL Web site <http://www.arl.org/stats/newmeas/emetrics/>.

[13] Reallocation of acquisition funds has not only been necessary to support the transition to electronic resources and services; it has also been a necessary tactic to sustain library subscriptions to key journals and other serials (in any format) in the face of extraordinary price increases. ARL libraries are spending nearly three times as much money on serials ($570 million in 2001) than they did 15 years ago and yet they are receiving 5% fewer titles. The acquisition of books and other monographs has also been adversely affected by the need to spend more on serial subscriptions with the number of monographs purchased dropping 9% over the last 15 years. Reallocation of library acquisition funds is a complex series of decisions made in part to respond to rising prices for journals and in part to respond to user demand for increased availability of high-quality content via the Web.

Some libraries have fully embraced initiatives stimulated or endorsed by SPARC (the Scholarly Publishing and Academic Resources Coalition) and other affordable publishing venues and are using acquisitions funds as investments in the future of scholarly communication. These libraries focus acquisitions on publications from scholarly societies and less expensive publishers, nonprofit and for-profit, that provide high-quality titles at affordable prices. These less expensive titles tend to be the most highly ranked by faculty but labor intensive to obtain, since each publisher has only a few titles and often lacks sales and technical staff. These libraries try to consistently view collection expenditures as investments, and to seek out publishers likely to contribute to a sustainable future for scholarly information.

Libraries are also supporting open access projects that experiment with alternatives to the current subscription-based funding model or the current journals-based publishing model for scholarly communication. These approaches are seen as those of a good citizen, especially in an institution whose needs for funding include many urgent priorities in addition to library needs. These libraries are investing in initiatives that may help solve the long-term problem of high prices for journals.[14]

Digitizing & Electronic Publishing

Most libraries are also pursuing a proactive strategy to increase user access to quality information resources on the Web by digitizing materials and collaborating with others to publish digital collections on the Web. For example, libraries are:

- Creating new electronic collections by digitally reformatting existing collections in the library and institution, including the collections of senior faculty and retired faculty
- Collaborating with other libraries, academic departments, scholarly and historical societies, museums, and others to build virtual collections from originals that are geographically dispersed
- Giving greater emphasis to developing and showcasing special collections of manuscripts and rare books, foreign-language resources, images, music, maps and geospatial data, numeric data sets, and making them accessible to discovery via the Web and in other learning environments
- Supporting faculty's e-publishing efforts by consulting and by offering technological infrastructure to develop the next generation "journal" and to create Web-based research tools and resources for teaching
- Partnering with university presses and other publishers to develop new publishing models
- Partnering with faculty departments and/or societies to mount discipline-based and/or institutional e-print servers

Expanding the Definition of Collections

Libraries have expanded the traditional view and definition of collections so that the concept no longer equates with those materials that the library "owns". The boundaries have expanded far beyond the print collections on site or the electronic files mounted locally to include electronic materials licensed or managed by the library and materials available through consortia. Increasingly libraries are taking responsibility for born-digital collections (such as geospatial or numeric data sets, faculty or class Web sites) and developing tools for their management and use. In a growing number of cases, a library's collection also includes resources that reside outside the domain of the library but for which the library takes some responsibility for managing and servicing.

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[14] The authors acknowledge and thank Jeanne Richardson, Arizona State University, and Margaret Landesman, University of Utah, for articulating these trends in the task force survey and allowing their statements to be adapted for this report.

WHAT'S IN A NAME? COLLECTION MANAGEMENT... CONTENT MANAGEMENT... KNOWLEDGE MANAGEMENT

At the October 2001 forum that laid the groundwork for this task force, Joe Branin (Ohio State), Frances Groen (McGill), and Suzanne Thorin (Indiana) suggested that just as "collection management" emerged from "collection development" as a recognized functional field of librarianship, so too is "content management" emerging as a distinctive response to the rapid development of digital information systems. Also at the forum, Richard Lucier (Dartmouth) challenged us to think of collection development in terms of "knowledge management" and the shifting (or disappearing) boundaries between the library and the scholarly enterprise.[1]

In a discussion paper prepared for the task force, Paul Conway (Duke) characterized the multifaceted nature of the idea of "content management". Different perspectives on the idea carry distinctive terminology, particular alliances, specific limits on what content is and is not, and implied commitments to organizational and administrative priorities. For example, the meaning of content management can range from managing digital content (as objects or assets), to the people who add value to the content, to the tools one uses to add value. Conway concludes

> librarians must reconcile the tensions between the structured and the dynamic, between "control zones" [as defined by Ross Atkinson] and empowerment, and between the Web that we access and the digital content that we provide. These tensions are not new or particularly interesting, except in so far as they help us extend the concept of "content" to encompass a much wider range of management responsibilities for digital content than we have heretofore chosen to consider appropriate.[2]

A discussion of the points raised in these papers and other articles[3] more than satisfied the task force of the potential confusion that the terms "content management" and "knowledge management" could raise when communicating across multiple communities. That said, there was little interest in devoting time to assess or debate the terminology. Instead, there was consensus that librarians should be cognizant of the multiple meanings and sensitive to the manner that they use—and hear—the phrases in their collaborations.

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[1] Forum presentations and notes are available on the ARL Web site <http://www.arl.org/forum/schedule.html>.

[2] Paul Conway, "Shared Vision of Content Management in the Web Environment: An Outline of Concepts and Definitions," notes for the April 15, 2002 task force meeting, <http://www.arl.org/collectaccess/CAconway.html>.

[3] Martin Dillon, "Knowledge Management: Chimera or Solution?" *portal: Libraries and the Academy* 2, no. 2 (2002): 321–336.p

An example of the latter is the movement by libraries to support the development of institution-wide knowledge management systems, where an institution's intellectual capital is centralized, preserved, and made accessible. In a university, this might include collections of digital material created by faculty, research staff, and students, e.g., research collaboratives, graduate student theses, electronic records of the university's administrative offices, courseware content, and streaming audio and video resources generated from courses, conferences, and other campus activities.

The content of print collections continues to play a critical role in libraries but that role is changing, as is the way that libraries are managing print collections. Less frequently used print resources are being relocated to storage with paging/retrieval services; more convenient resource sharing makes book collections accessible to wider audiences.

Instead of describing collections as "those things owned", a better definition may be "information resources for which the library invests financial resources—directly or indirectly—to manage, service, or preserve on behalf of library users, regardless of the location of content." "Collections" now include resources owned by the library and those accessed in remote locations; the norm is now an interdependent mix of ownership and access, with the location of the material increasingly irrelevant to users.

Expanding E-Services and Tools to Enhance User Access

Libraries are increasingly providing users with services and tools that enhance access to electronic resources and support an integrated approach to discovering and receiving this content—along with library services—in classrooms, on the "desktop", and on PDAs. In many cases, libraries deliver unrestricted content and services to users far beyond those affiliated with the institution. Libraries are pursuing this in many ways, including offering new services, adapting the role of the online catalog, experimenting with the Open Archives Initiative (OAI) metadata harvesting protocol, and writing or adapting software tools.

New Services

New library services frequently mentioned in the survey responses include:

- Timely self-service resource sharing and other user-initiated services (for example, user-initiated ILL or document delivery, renewals, book-delivery requests), which make access to books and other print resources almost as easy as access to electronic information
- Electronic-only reserves and streamlined procedures for faculty submission of course reserves
- Virtual/chat reference service
- The integration of content and library services into course management software, K–12 curricula, and educational programs of museums and libraries
- Portal software that enables customized searching across both licensed and freely available information resources as well as links to supporting services, such as document delivery, ILL, and virtual reference
- Online tutorials in addition to in-person basic instruction on learning and research skills as well as training in the use of software for managing digital data, numeric and spatial data sets, and images
- Packages of e-content and/or services to alumni, government agencies, small or start-up companies, and other sectors of the community, either as a contribution to the community or as part of a service-for-fee program

THE ROLE OF PRINT IN RESEARCH LIBRARY COLLECTIONS

Studies repeatedly confirm that, even in the intensely digital environment of research institutions, printed resources remain important for students and faculty. They depend on the library for both print and electronic resources and express a preference for a hybrid information environment, where electronic resources supplement print. In one study, respondents reported that while they go online first, almost all use printed books and journals in their work and consider them to be more reliable than electronic resources. In a study conducted in one large research university, seniors reported high use of print in the humanities, social sciences, and the natural sciences. Nationwide, library users report that their appetite for information resources continues to exceed their libraries' collections. These library users identify providing access to more information, *including comprehensive print collections,* as the highest priority for their libraries' improvement.[1]

Research and experience also show wide differences among disciplines in how information is used, how new technologies and digital publications are embraced, and to what extent digital content substitutes for print. In many instances, print on paper is the preferred medium for concentrated reading and for real-time collaborative work. *The Social Life of Information* by John Seely Brown and Paul Duguid (Boston: Harvard Business School Press, 2000), and *The Myth of the Paperless Office*, by Abigail J. Sellen and Richard H. R. Harper (Cambridge, Mass.: The MIT Press, 2002), point out the current value that knowledge workers such as air traffic controllers and World Bank employees still find in print and paper resources. Sellen and Harper, on page 13 in their book, say, "It seems that much of the information found on the Web needs to be printed in order for us to read it and make sense of it."

Responding to user expectations for easy searching and convenient access to an expanding array of information sources, libraries are spending increasing amounts of their materials budgets on electronic resources. While up to now many libraries have actually also maintained the print, where dual versions exist, recent budget and space constraints have led many to make a choice of the format they collect. The nascent state of strategies for preserving digital content makes some libraries reluctant to relinquish print editions. However, seeing that these preservation issues are now being addressed, and given the significant advantages of the electronic editions, many libraries have decided to collect electronic-only. Libraries are also offering printing services to meet users' expressed need for print. As professional print-on-demand technologies become more cost effective, this option may offer, for users who require it, a way to generate high-quality bound printed editions from electronic information resources.

At the same time, libraries have not abandoned print. They continue to acquire print in disciplines that are not moving as quickly into the digital world as others and in formats, such as monographs, that are still published primarily in printed form. Thus, integrating print and electronic resources and making print resources almost as easy to access as electronic content are challenges facing libraries in this hybrid environment. Portal software is being designed to enable users to search library catalogs simultaneously with both open and licensed databases to find content regardless of format, thereby building a bridge between the library's print and digital collections. Timely, self-service resource sharing and other user-initiated services such as book renewals and book- and article-delivery are also making access to print resources much easier. In the future more information will be created, stored, delivered, and preserved digitally, but print—because of its physicality, flexibility, perceived reliability, ease of reading and sharing—will be used for reading and editing for some time to come.

Even as print retains importance, the library's physical space has increasing value for other activities, especially collaborative learning and research. Thus, to free up prime real estate, libraries are moving lesser-used print collections to storage centers (with rapid delivery service) and are exploring cooperative approaches to long-term *preservation copy* retention.

For now, research libraries' print collections continue to play a critical role for users even as that role and how users gain access to the material are changing. Given the rapidly changing environment, however, libraries are carefully monitoring the information-seeking and reading habits of their users to see how their use of print and digital resources changes or does not change over time.

[1] See "Changing Patterns of Information Use," pages 3–5 of this report, for more information on the research summarized here.

Role of Online Catalogs

Survey respondents described new approaches to library service that indirectly, and in some cases implicitly, involve the online catalog. Below are a few examples of new approaches to the library catalog.

- Efficient, consortial, resource-sharing arrangements based on linked catalogs and the ability to search across them
- Software tools such as portals and other search engines programmed to search across all kinds of databases, including online catalogs
- Testing the usability of the online catalog both before and after a system migration
- Outsourcing English-language cataloging to reallocate funds into digitizing projects

It is clear that the role of the online catalog has changed. That catalog has become one of many databases available to users; libraries are linking to and from the catalog to integrate all of these resources. In recognition of this broader role for the library catalog, some libraries are considering modifying cataloging to favor timely access to a wider variety of formats. One proposal called for reallocating funds that are devoted to describing books and journals to materials that are proportionately underrepresented in today's catalogs, such as films, music, photographs, and digital objects.[15]

Libraries are also reconsidering their current efforts to collect and catalog free Web resources, concluding that these labor-intensive activities can be avoided by perfecting nascent machine harvesting and cataloging techniques.[16] A small number of libraries and library organizations are participating in experiments funded by The Mellon Foundation to test the application of harvesting and search engine technologies. Using the recently developed OAI metadata harvesting protocol, these libraries are delivering information from the "hidden Web" not normally found by Internet search engines and from databases with retrieval formats that present special processing or presentation problems (archives and image databases, for example).[17]

Library Development of Software Applications

There are a number of examples in the survey responses of research libraries writing software, working with open source software, or working with consortia or commercial firms to develop or adapt software to streamline or transform library operations. For example, several libraries are working with vendors to adapt existing portal software into multifunctional products with features and services desired by users in research communities. Other examples of library involvement in development of software applications are ILL management systems, instructional tutorials, management of content and services for digital libraries, and institutional repositories.

Reconfiguring Library Space to Support Learning and Research

There has been a shift in the sense of "importance of place" for the research library's physical facility and a new appreciation for the value of ennobling space for learning. Although where information resides matters less to the user, the library as place—the physical entity—remains more important than ever and performs a host of functions vital to learning and research. Much research library space is busier than ever before.

Library facilities are being reconfigured to provide space for collaborative learning and research. There are classrooms and media labs where faculty and librarians may interact in providing student learning experiences, group study spaces, and community spaces where students can meet to discuss ideas.[18] The transformation of library space has also become an opportunity to attract new academic collaborations such as writing studios and academic skills tutoring. Library space is now seen as learning space on an equal footing with classrooms and laboratories.

Libraries are being renovated to expand e-access and foster community by providing electronic classrooms, wireless data networks, offering laptops, and expanding library hours. Libraries are establishing spaces called "information commons" (also called "learning commons" or "knowledge commons") where library reference services are offered jointly with information technology support. At the same time, libraries are responding to decreasing use of in-person reference service by combining service points (eliminating format-driven service points) and shifting resources to online reference service and online tutorials.

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[15] See Sarah E. Thomas, "Abundance, Attention, and Access: Of Portals and Catalogs," *ARL: A Bimonthly Report on Research Library Issues and Actions from ARL, CNI, and SPARC* no. 212 (October 2000): 1–3, <http://www.arl.org/newsltr/212/portal.html>.

[16] See Louis A. Pitschmann, *Building Sustainable Collections of Free Third-Party Web Resources* (Washington, D.C.: Digital Library Federation, Council on Library and Information Resources, June 2001), <http://www.clir.org/pubs/abstract/pub98abst.html>.

[17] See Donald J. Waters, "The Metadata Harvesting Initiative of the Mellon Foundation," *ARL: A Bimonthly Report on Research Library Issues and Actions from ARL, CNI, and SPARC* no. 217 (August 2001): 10–11, <http://www.arl.org/newsltr/217/waters.html>.

[18] For information on model "collaborative facilities" on college and university campuses, see the Collaborative Facilities Web Site developed by the Coalition for Networked Information and Dartmouth College <http://www.datrmouth.edu/~collab/>. See also related articles by Betsy Wilson and Barbara Dewey in *ARL: A Bimonthly Report on Research Library Issues and Actions from ARL, CNI, and SPARC* no. 222 (June 2002): 1–5, <http://www.arl.org/newsltr/222/>.

To make the best use of prime real estate, libraries are adopting new approaches to managing large print collections by using storage centers with delivery services for less frequently used materials and engaging in cooperative approaches to long-term preservation copy retention.

The branch or departmental library remains valuable but its role too is changing. While access to information and library services is far less geographically based, branch and departmental libraries still play a role in development of community and serve as sites for collaboration. Yet, in the Internet world there are opportunities to rethink the role of multiple libraries and their configuration within an institution. One library reported establishing a program to replicate the opportunities for personalized services and contacts that characterize branch library service without the cost of creating additional branches. Some of the same opportunities for reorganization may present themselves when libraries work in collaboration with other libraries outside their institutional boundaries.

Emphasizing Instructional Technology Services and Information Literacy

Libraries are active participants in building awareness among researchers, faculty, and students of uses of high-quality content and information technology in teaching and research. Curriculum review and changing expectations for teaching faculty present opportunities for libraries to contribute expertise and resources. Libraries provide classrooms; training and consulting in finding and evaluating information; and assistance with creating electronic theses and dissertations, displaying and visualizing data, publishing journals on the Web, and using geographic information systems (GIS) and remote sensing. Recognizing that disciplines are adopting new technology at different rates, librarians are:

- Working with faculty to integrate information literacy skills and digital content into the course curricula
- Expanding the number of people reached by offering basic information literacy and fluency training through online tutorials
- Assisting researchers in acquiring, accessing, displaying, and visualizing spatial and numeric data by providing training in use of software and partnering with faculty to provide classroom instruction in its use
- Developing systems and instructional tools for pedagogical use of digital resources, including images
- Managing campus instructional technology initiatives

Making Organizational Changes within the Library to Innovate and Improve Services

Libraries are embracing change—being willing to change *what* libraries do and *how* it is done—and, as a result, are reorganizing their operations and re-deploying staff to respond to the new environment. Examples of recent organizational change in ARL libraries include:

- Many libraries report having instituted an integrated approach to collection management, bringing together the activities of building, maintaining, and providing access to library resources in all formats, both in-house and remote, both acquired and locally created.

- Many libraries also report taking interdisciplinary approaches, training library staff to perform across traditional roles and to build bridges between the culture of the library and that of the faculty and information technology. An example is the creation of information commons jointly staffed by the library and information technology, often developing services in collaboration with faculty.
- Others report organizational redesigns to achieve a system-wide view of services to coordinate communications with all library users and to deploy staff more flexibly.
- Libraries are experimenting rigorously with organizational transformation reflecting strategies for team-based decision making, learning organizations, and quality management.

Assuming Institution-Wide Leadership on Scholarly Communication Issues

Libraries are assuming leadership within their institutions to advocate for enduring institution-wide knowledge management policies and programs that contribute to a robust system of scholarly communication. Some libraries are accomplishing this goal by:

- Sponsoring scholarly communication seminars to broaden faculty and graduate student awareness of trends that threaten the long-term sustainability of the current system of scholarly communication
- Advocating for institution-wide intellectual property policies that balance the rights of copyright owners and those of users and libraries in educational settings, including the development of principles that guide the licensing of electronic resources for the institution
- Promoting individual behavior and building institutional support that contributes to the long-term health and viability of scholarly communication channels, including developing infrastructure for such alternative publishing practices as publishing open access journals or creating institutional repositories

Looking for Opportunities to De-Emphasize Activities

The task force reviewed the survey results for evidence of how libraries are able to find the staff and financial resources to undertake some of these new programs. While the survey did not pose this particular question, there were indications from the information submitted that some of the new programs were possible because of shifts or reallocations away from other activities or consolidation of activities. Examples of these shifts in activities include:

- Canceling subscriptions to paper editions of selected journals (also received electronically) to reallocate the subscription fees to other purchases
- Replacing mediated or staff-assisted ILL largely with user-initiated ILL to contain costs or reallocate staff to other assignments
- Shifting the purchasing of library material from the individual library to consortia to obtain better prices for the content
- Outsourcing cataloging to contain costs and reduce local staffing needs
- Replacing paper reserve operations with e-reserves to make it easier for faculty to submit items and for students to access and read them
- Conducting freshmen tutorials online to allow concentration on face-to-face tutorials for upper-level and graduate students, thus stewarding use of existing staff and allowing them to reach more students
- Consolidating separate service points and redeploying staff to new assignments

INNOVATION AND CHANGE: WHAT ARE THE INFLUENCING FACTORS?

The task force examined eight factors that may influence the general climate of change and innovation in collection management and access services: library or institution size, opportunities for collaboration, ability to share control, facilities and human resources, institutional flexibility, extent of cultural convergence within the institution, digital preservation strategies, and risk taking.

Does Size Matter?

All research libraries—regardless of size—that participated in this study are innovating and adapting to the changing needs of their patrons, as well as to the changing requirements of their institutions. There is no clear evidence to suggest definitive trends in change based on the size of the library collection.

There are specific types of innovation, however, that seem to be related to library or institution size. There is anecdotal evidence that library size has been influential in the development of digital library programs; libraries with more mature digital library programs tend to be libraries with larger collections and more staff members. On the other hand, smaller institutional settings may encourage innovative collaborative activities, either because of the financial necessity to join forces to make something happen or because of the potential in smaller communities for more interaction across campus units.

There is also anecdotal evidence that the institutional climate for change and the active support of groups and key individuals within the institution play a central role in the library's orientation and opportunities to innovate; to the extent that the size of the institution impacts this climate, size may be a contributing—if not driving—factor.

Willingness to Collaborate & the Kind of Consortia in Place

Research libraries' ability and desire to collaborate with other research libraries, with non-university libraries, or with other organizations and industries will determine the success of many library programs. Motivations for collaborations vary greatly and include leadership, political support, the lure of available funding, and the desire to transform the library, to move it into the digital age. An increasingly important collaboration is consortial buying of print and electronic content and services.

Consortial buying and licensing for access to electronic resources have become central in every research library's arsenal of strategies for acquiring information more economically than could be accomplished by acting alone. Many libraries find user-initiated consortial borrowing combined with rapid delivery a successful avenue for making their users' access to books as easy as access to electronic resources. There is evidence that fast delivery of books within a consortium has increased book use, especially by undergraduates. Consortia also offer accompanying services that greatly expedite the discovery and delivery of non-book content for users affiliated with libraries participating in the consortium; some consortia are centrally managing image data banks, electronic theses and dissertations, and other digital materials.

Consortial structures vary and reflect the political framework of the state or region in which they operate and the institutions they represent. In some cases, a state legislature appropriates funds centrally to support consortial activities on behalf of libraries; in others, individual libraries pay to a common fund. External funding facilitates the process of individual institutions' making the adjustments and compromises that consortia require and tends to support consortial relationships among libraries of varying sizes and characteristics. Consortia funded solely by the participating libraries tend to be formed of libraries of similar size and characteristics.

Consortia are on the front line of controversies between libraries and publishers about pricing, the terms of use defined by licenses, and publisher practices that make it difficult for a library to cost-effectively tailor its purchases from the publishers' lists (with financial incentives favoring a bundled choice) or to reduce the total amount of money spent with that publisher. The tendency of consortia to acquire or license electronic resources from the larger, commercial publishers raises concerns that content from scholarly societies or other smaller publishers will be overlooked.

Research library staff are actively working with their partners in consortia to assess the benefits and challenges of consortial licensing and to influence publisher behavior in favor of scholarly communication needs.

Willingness and Ability to Share Control

A closely related factor to collaboration is the degree to which the organizations involved in a joint effort are willing to share control, at both the intra- and the inter-institutional levels. This sharing of control has implications for many activities such as archiving; consortial buying; expanding online resources; collaborative efforts with faculty, information technology groups, instructional technology centers; and cooperative publishing projects.

Libraries are promoting team operations to advance collaborative projects and to encourage a convergence of different organizational cultures where control is truly shared (for example, between the library culture and faculty culture and computing center culture). Many research libraries are willing to establish new partnerships and share control in order to innovate.

Opportunities to Leverage Strengths of Space and Human Talent

Research libraries' ability to recognize their strengths and their willingness to leverage those strengths influences the success of library integration into the research institution. Libraries have a special kind of space on campus, space that is seen as politically neutral and representative of the intellectual commons—public-good space. This nature of space gives libraries leverage to attract and nurture collaboration with other parts of the institution. Libraries also have human talent they may deploy for the institution. Research library staffs have a wide range of expertise that can support new approaches to meeting user and institutional needs. Many libraries are leveraging their space and human resources to the advantage of the institution, for example, in creating an information commons, establishing an institutional repository, or providing campus management of copyright clearances.

Extent of Institutional Readiness for Change

A major factor in innovation is the degree to which research libraries and their institutions are willing and able to embrace change. The willingness of the library leadership (at all levels) to change its vision of what a library is and does, and to transform library operations to reflect that vision, obviously influences innovation. However, the culture of the institution itself also influences how the library engages and supports change.

What is the institutional perception of, and underlying philosophy regarding, the large print collections in the library? How do the research library and its institution approach the issues of growth of print collections and use of traditional measures of research libraries? How do they approach the issues of growth of digital content and use of emerging new measures? Are key leaders within the library and the institution ready to embrace new measures reflective of the new environment as either complements to or substitutes for traditional measures? How questions like these are answered will affect the pace of library change and innovation.

Many research libraries find themselves in the impossible position of being expected by some disciplines to implement systemic change while continuing to be responsive to the needs of other disciplines that have slower rates of adoption of new technology.[19] During this period of transition, this is a major factor influencing how libraries implement change and how that change is received within the institution.

Readiness of People to Work in Different Cultures

The degree to which people in the institution exhibit "interdisciplinarity" or demonstrate effectiveness in working with the various cultures of the institution—library, faculty, and information technology cultures—is another important factor in innovation. Success in collaboration depends on some degree of convergence of these cultures.

Convergence or integration of cultures is being approached in several different ways. Examples include convergence of cultures in shared space; convergence of technical and bibliographic expertise; and convergence of human capital to consolidate efforts, encourage cooperation, and provide institution-wide access to the latest equipment, software, and support as well as a wide and deep collection of high-quality content.

Experience reported in the task force survey suggests there is a need to support greater cultural integration. Some libraries pursue this goal by establishing cross-cultural task forces, developing cross-training and mentoring programs for effective performance across and outside traditional roles, adopting position classification schemes that reflect the changes required of staff, providing opportunities for staff to cross boundaries, and (most often expressed) by giving people time to work through the process of cultural convergence.[20]

Strategies for Preserving Digital Content

Converting existing collections and new acquisitions from paper to electronic-only is currently inhibited by the nascent state of strategies for preserving digital content. Internationally, publishers are working with national libraries (or their proxies) for them to assume the role of the publishers' archives for digitized texts;[21] the reliability and terms of use of these archives are still being determined. When library, publisher, and technology communities reach consensus on how best to manage the preservation of digital resources, the transformation of library collections to largely electronic will accelerate.[22]

Willingness to Take Risks

In this rapidly changing environment, there are many opportunities for entrepreneurial activities, which often require the financial risk of investing resources in new activities even as budget pressures tighten. Entrepreneurship may also create new activities that bypass or challenge the standards, rules, and policies that are part of library operations. Success depends on the library's ability to reach informed judgments, usually with less than complete information, on the strategic importance of an opportunity and whether it warrants the financial and other risks that accompany change.

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[19] Recent research on how different fields of scholarship use electronic media in scholarly communication concludes that we are likely to see field differences persist even as overall use of electronic communication technologies increases. See Rob Kling and Geoffrey McKim, "Not Just a Matter of Time: Field Differences and the Shaping of Electronic Media in Supporting Scientific Communication," *Journal of the American Society for Information Science* 51, no. 14 (Dec. 2000): 1306–1320.

[20] For a summary of how nine research libraries are addressing computing and library cultural convergence, see Richard Meyer's report to the task force, "Addressing the Cultural Dimensions of the Convergence of Computing and Library Staffs," October 10, 2002, <http://www.arl.org/collectaccess/CAmeyer.html>.

[21] For context on these efforts, see the joint statement on the archiving and preserving of digital information by the International Federation of Library Associations and Institutions (IFLA) and the International Publishers Association (IPA), "Preserving the Memory of the World in Perpetuity," June 2002, <http://www.ifla.org/V/press/ifla-ipa02.htm>.

[22] The issues yet to be resolved are not to be underestimated. Laura Campbell, Director of the National Digital Information Infrastructure and Preservation Program at the Library of Congress, has observed that while there is broad consensus on the urgency of the problem of how to preserve digital materials and agreement on the need for solutions to be distributed and decentralized, there are still many unresolved issues, such as legal issues, scope (what to preserve, by whom, and at what level), balance between preservation and access, and economic and technical issues. See Laura Campbell, "Update on the National Digital Infrastructure Initiative," in *The State of Digital Preservation: An International Perspective* (Washington, D.C.: Council on Library and Information Resources, July 2002): 49–53, <http://www.clir.org/pubs/abstract/pub107abst.html> and the Initiative's own Web site <http://www.digitalpreservation.gov/ndiipp/>. A useful article for the generalist is "Data Extinction," by Claire Tristram in *Technology Review, MIT's Magazine of Innovation* (October 2002): 37–42. To stay abreast of the considerable efforts underway internationally to address this array of issues, see "What's New in Digital Preservation," a joint service of the Digital Preservation Coalition and the National Library of Australia's PADI (Preserving Access to Digital Information) Gateway <http://www.dpconline.org/graphics/whatsnew/>.

CONCLUSIONS & RECOMMENDATIONS FOR THE ARL AGENDA

Developments in digital technology, the introduction of the Web and the Internet, and new methods of creating, sharing, and using knowledge have changed dramatically the traditionally understood definitions of library collections and access services. Building collections and creating access to them are no longer achieved just within the walls of the library. Broadly defined, collections and access responsibilities are no longer distinct spheres within research libraries. Collections and access responsibilities are inextricably linked—with each other, with other functions in the parent institutions, and, indeed, they reach into other institutions. This interdependent and fluid environment presents challenges, but more importantly, it presents opportunities for librarians to take leadership roles in creating new information services in support of research and learning and thereby diffuse the library throughout the institution.

This new world is described in the examples of new approaches to collections and access culled from the summer 2002 ARL survey and the above analysis of the survey results that elucidates the most influential factors in these transformations.

Recommendations for Further Actions

Given these emerging transformations, the task force recommends that the ARL agenda include the following priorities:

1. **Integrating Content and Services with Research and Learning**
   Identify and promote access strategies that facilitate the integration of information technology, content, and library services with research and learning. Such strategies for integrating content and library services into courses or research projects include:
   - Application of portals and other resource-integration tools
   - Provision of instructional technology training and consulting services for students and faculty
   - Integration of information literacy and fluency skills into course curriculum
   - Development of systems and instructional tools for pedagogical use of digital resources, including images
2. **Expanding the Availability of Resources**
   Promote strategies that expand the availability of resources (particularly e-resources) and expand the definition of collections and the organizational models for how they are built, maintained, discovered, delivered, and preserved. Such collection-expanding strategies include:
   - Consortial buying
   - Digital libraries and other electronic access strategies
   - Patron-initiated reciprocal borrowing
   - Enhancing the accessibility of little-held, rare, or unique materials, including special collections and foreign-language materials
   - Facilitating the management of knowledge resources not in the library domain, including born-digital and other resources emanating from science, technology, medicine, the social sciences, and humanities
3. **New Uses and Functions for Physical Library Space**
   Identify issues and engage the discussion of new uses of, and functions for, the physical library space, including contributing to a comprehensive strategic response to managing print collections over time.

4. **Organizational Implications of New Roles for Libraries**
Address the human and organizational consequences of new roles for libraries by showcasing examples of library organization that cross the traditional boundaries of collections and access functions and that support the information needs of student or researcher in a hybrid digital/print world.

The task force also underscores the importance of several ongoing ARL initiatives that will contribute to new approaches to collection management and access services. In particular, the task force urges that ARL:

- Continue to define and promote the skills and competencies required for librarians to carry out the new roles of reaching out to interact with faculty and working collaboratively with others within and beyond the institution for the:
  - Deployment of information technologies
  - Creation of knowledge
  - Design and management of digital repositories
- Continue to promote library use of new assessment measures including those that may integrate with institutional assessment initiatives. For example,
  - Monitor the changing user environment by highlighting new research on the information-seeking behavior of people as well as lessons learned from LibQUAL+ and other library user surveys.
  - Continue to support the development of new measures for assessing the library that more fully recognize the new environment.
  - Continue to promote and support activities that contribute to the positive transformation of the system of scholarly communication and of the laws that affect use of intellectual property for educational purposes.

The findings of the task force underscore the ever-changing nature of our environment. The findings reinforce the need for libraries to monitor these trends and to continue assessing library responses to change and user perceptions of library performance. ARL's data, the new measures projects, publications, workshops, and Membership Meeting discussions and programs should continue to track North American trends. ARL must continue to provide member libraries with the information, tools, and skills necessary for proactive delivery of collections and access services for the 21st-century scholar.

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